# The Builder.

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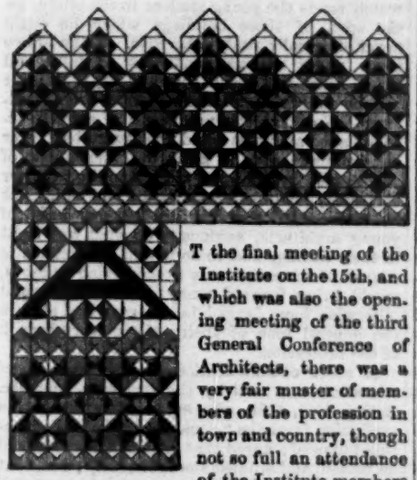
## *The Institute and the Architectural Conference.*



T the final meeting of the Institute on the 15th, and which was also the opening meeting of the third General Conference of Architects, there was a very fair muster of members of the profession in town and country, though not so full an attendance of the Institute members as we should have wished to see on the occasion. Whether certain untoward circumstances may have influenced the attendance, or non-attendance, we cannot, of course, undertake to say; but there can be no question that the Conference did open under drawbacks. The President, Sir Gilbert Scott, was unavoidably absent, nor was any special opening address from his pen forthcoming. The chair was taken by Mr. John Gibson, vice-president, to whose lot it fell to make a very unusual, not to say unpleasing, communication. The Council had recommended the presentation of the Gold Medal this year to Mr. Ruskin, as a distinguished writer on architecture,—a recommendation which had been duly sanctioned by her Majesty. Mr. Ruskin is abroad at present; communication with him was unavoidably slow; and when his reply finally reached the Council, it was in the form of a refusal to accept the medal. The refusal came too late to leave any other course open to the Council, the chairman said, than to withhold the medal for the present; and he announced that the decision of Mr. Ruskin had been communicated to her Majesty, through Sir Thomas Biddulph, and that they were now awaiting his reply. Pending this reply, the Council were of opinion that nothing further should be officially said or done in the matter. The Council, as it seems to us, should not have placed her Majesty in this position: they should at once have cancelled the award and nominated another recipient. A proposal that Mr. Ruskin's letter be read raised a tolerably lively discussion, a good many members being of opinion that the reasons for this quite unprecedented act should be at once given to the meeting. Eventually a motion "that the letter be read" was put to the meeting, and lost by one vote (fifteen against fourteen of the Fellows present); and we are therefore still in ignorance as to whether the author of the "Stones of Venice" objects to the medal, to her Majesty, or to the Institute, or to all three. Mr. Ruskin's action, on the face of it, appears discourteous, and is certainly quite unprecedented; but his idiosyncrasies of opinion and of temperament are so well known that it seems a pity the Council did not contrive to obtain a formal reply from him before publishing the award. For the credit of a distinguished writer, we may hope that Mr. Ruskin has some better explanation to offer than mere petulance or wilful eccentricity.

The Chairman then presented to the successful competitors the annual prizes, which were awarded as follows:—Institute silver medal and five guineas, for architectural drawings, to G. Dale Oliver; medal of merit, for ditto, Walter T. Brown; certificate of honourable mention, W. T. Whyte; Institute silver medal for essay on Architecture in London in Sixteenth Century, A. T. Taylor; medal of merit for essay on Vaulting, T. H. Eagles, B.A.; student's prize in books, H. R. Perry; medal of merit, for drawings submitted in competition for Pugin studentship, W. J. Munt; certificates of honourable mention, for same, W. W. Bethell and W. Wilson.

The Chairman, announcing that they had now concluded the business of the Institute specially, and arrived at

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proceeded to read a short address to the meeting.

He commenced by stating that in the name of the Institute he bade those friends who had come from a distance a hearty welcome; and he must not forget to mention those other members of the profession in the provinces who had done them the honour of sending their representatives to take part in the discussions upon the subjects which would be brought before them. This would, he maintained, tend not only towards elevating the general tone and unanimity of their profession on conflicting matters; but, at the same time, would secure what was just and beneficial to the public at large. At the first year's Conference, held in 1871, much was attempted, and a great deal was done; and that of 1872 materially assisted in bringing about a certain amount of uniformity of practice, especially with regard to professional charges, mainly founded upon the schedules which had been the guide of the members of the Institute for some years previously, and which were now admitted to be so equitable that they were not only often quoted, but they had considerable influence and weight in the Courts of Law. The general regulations for the conduct of architectural competitions was another good work of the last Conference, emanating as it did from the main body of the members of the profession. It clearly showed that all that was required was fair and honourable treatment; and architects would act wisely in competing only on similar terms, this being the only course to pursue, which would prevent the outrageous injustices of which many of their brethren had often been victims. With regard to the question of the employment of surveyors, which was to engage the attention of the Conference, he stated that if the meeting could arrive at a satisfactory solution of the question at issue, it would be a great gain to the whole profession and the public generally. He feared that, as the question had been so long under consideration, and considering existing circumstances, there were great difficulties in the way of a final settlement. As the object of the Conference was to obtain, if possible, more uniformity on matters of professional practice, it would not be foreign to the subject, he thought, to allude to the total want of it in a variety of local Building Acts and Sanitary Acts in operation throughout the country, which appeared to have been promoted by the authorities without especial reference to any general basis or to the existing Metropolitan Buildings Act, which, he believed, had been found to answer well. As regarded the rights of the public and building owners, in many cases it had been found in practice next to impossible to comply with their requirements, and if questions of light and air could be more clearly defined by an Act to apply generally, it would effect a saving to the country of some thousands a year.

In the absence of any lengthened address from the President of the Institute, the Chairman then called upon Professor Kerr, who, in compliance with his request, had undertaken to contribute a short paper to the meeting. The paper dealt mainly with the consideration of the difficulties of architectural practice arising from the great and varied demands which were now being made on the architect from the side both of science and art, practical building, and accessory decoration. We print it in full on another page.

The contrast between the very simple work, comparatively, which was half a century ago demanded from the architect, coupled with the respect and estimation in which he was then held, as compared with the immense demands made upon him now, and the abuse which "leader-writers" in the daily papers think it witty to heap upon him, certainly suggests the inference that those who complain of the profession now are doing so very wantonly and ignorantly, unless they are prepared to show that they are immensely wiser, or that their requirements are far greater, than those of their fathers. But it does not do to push such contrasts too far, for the overdrawn abuse found in some of the journals does not really represent the feelings of any section of society; it will be found, and many members of the profession can testify from their own experience, that society rather likes the architect, when he has given proof of even moderate aptitude in his profession; and the newspaper attacks referred to probably do not represent anything which can be called an opinion on the part even of their writers, but rather a desire to say some thing smart on a subject which will be at the moment generally interesting; and this is, perhaps, as serious a charge against the journalists as any which those gentlemen can possibly bring against the architects. We do not think, however, that the sort of flippant writing referred to really influences anybody.

A discussion on Prof. Kerr's paper was opened by Sir Digby Wyatt, who, glancing at the objects of the Conference, the meeting, and the comparing notes and ideas by members of the profession, thought that such meetings supplied what might be termed the contact of flint and steel necessary to keep up the fire of genius. Perhaps the fire of genius was attempted to be kept up to too brilliant a blaze just now, and we were liable to fail from attempting too much and too many things. That sectionalising of the profession, referred to in the paper they had heard, he regarded as an absolute necessity, without which the great circle of subjects now included under the general head of architecture could not possibly be adequately dealt with. There were local necessities, too, involving local rules of practice which could not be ignored; and it was very desirable that they should have this opportunity of meeting architects from different parts of the country who would make them acquainted with the working of the profession under various circumstances. Mr. Atkin, representative of the Institute of Ireland, stated that the line between the engineer and architect was no better drawn in Ireland than in England; rather leading, indeed, to the inference that in the sister isle the terms "architect," "engineer," and "surveyor" were all but synonymous and interchangeable. The whole question, as it seems to us, turns a good deal on the matter of names. The word *architect* has come to have a very extended and therefore to many persons vague meaning, and there is no doubt that it does include persons engaged in work of very varying kinds. If a subsidiary division or two in the profession could be specialised by the addition of one or two adjectives to the general term "architect," this might make the matter a little clearer to the public, perhaps, and prevent them from expecting everything in the world from one man. But

then, again, the old and time-honoured name of "architect" really means chief builder and master of the works, and it would be a great loss for either the name or the thing to go. Even where other persons are employed under the chief architect, in executing decorations, and so on, the value of the one head is, or ought to be, unquestionable; it is only so that we can ensure anything like unity of feeling and principle in the detailed design and ornament of an edifice. Mr. I'Anson, in carrying on the discussion, considered that the two invasions of the architect's province, from the side of engineering and decorating, must necessarily occur; they were a proof of the activity of the age, and we must accept the position. Mr. Dawson, concurring in this view, further suggested that as various members of the profession had their own special subjects in which they were well up, it should be an understood thing that when an architect met with difficulty in work he was not used to, he should consult a brother architect who was better up in it. There are many cases in which this might be done, we have no doubt, with ease and profit; but we fear this universal brotherly-love-and-mutual-advice system, however delightful, could not be always carried out in practice; nor are we quite sure that it ought to be. A man who has spent much time in mastering some one difficult subject can scarcely be expected to make a present of the knowledge which it has cost him much to gain. The establishment or recognition of "consulting architects" on special branches would put the suggestion on a more business-like footing, and would be quite practicable. Mr. Parslow (delegate from the Liverpool Architectural Society) made some remarks to the point, as to the want of a definite system of practical instruction for young architects, whereby they could learn all that they had to know about materials and construction readily and comprehensively. This is an old complaint, and it would be a great boon if any such book as that of Bartholomew could be produced now, suitable to the knowledge and requirements of the present day. Mr. Hornblower, in reference to the charges brought against architects for allowing bad work in their buildings, observed that it was utterly impossible that an architect could keep an eye on everything that was done by a contractor and his workmen; and that with dishonest workmen the architect might in fact sit at one end of the building and be cheated at the other end. Mr. Burges, in answer to a call from the chair, said his opinion might be very shortly stated; it was impossible for one man to be both an architectural artist and a practical builder.

Mr. Charles Fowler, in proposing a vote of thanks for the paper, urged that though no man could master all the branches of the profession, they were all mastered by the profession *en masse*; and that whatever was wanted could be successfully carried out within the limits of the architectural profession. This is quite true, if only the public can be made to understand it; and there is something in the remark with which Mr. Morris followed it up, that painting as an art covered an immense field of subjects, but that most painters had their known and recognised ground, and were not expected to step beyond it, or blamed for not doing so. The parallel is not precise, but it is not out of relation to the subject. We do not go to Mr. Hook for animal painting, or to Mr. Rivière for sea-pieces.

Mr. Sharpe, in seconding the vote of thanks, remarked that the subject raised and discussed was a very interesting and important one, and he hoped it would be further considered during the present Conference.

It may be convenient here to mention that the following gentlemen attended the Conference as delegates from various provincial societies:—

The Royal Institute of Architects of Ireland, Mr. William Atkins; The Glasgow Institute of Architects, Mr. J. Salmon; the London Architectural Association, Mr. E. J. Tarver; the Liverpool Architectural Society, Mr. W. Parslow; the Manchester Society of Architects, Mr. E. Salomons; the Nottingham Architectural Association, Mr. Robert Evans; and the Sheffield Architectural Society, Mr. J. D. Webster.

On Tuesday morning, at eleven o'clock, a visit was paid to the new Home and Colonial Offices, where from twenty to thirty members of the Conference assembled, and were conducted over the building by Mr. Sheffield, the clerk of the works, to whom those who were present are indebted for the civility and attention shown to them. A description of the building will be found elsewhere.

The sectional meeting at three p.m. was opened by the reading, as announced, of a short paper by Professor Lewis

ON PROFESSIONAL EDUCATION.

Waiving the question of the Art Education of the public, which the lecturer had on another occasion treated of, and which he regarded as of the utmost importance, and directing his attention mainly to the question specially before the meeting, viz., the Education of the Architectural Student, the reader said it seemed to him that, previously to the pupil entering an office, the only education necessary for him was the ordinary education of a gentleman, with the addition of greater attention to drawing and scientific teaching than is usually paid. It would be rather sad to have to admit that the education which one receives at a university or a public school, or that which is tested by the Oxford and Cambridge examiners at other schools should not meet the wants of a youth about to devote himself to the study of our art. But he thought it *did* meet it. It was true that drawing and scientific knowledge had not till very lately received anything like due attention in our schools and universities, but this was being remedied now. Speaking of the three years' course of scientific study at University College and King's College offered for civil engineers, and which embraces mathematics, physics, chemistry, geology, civil and mechanical engineering, surveying and levelling, Professor Lewis almost feared that a course like this, which entirely ignores any creative artistic faculty, and which requires such hard work, would be likely to turn the enthusiatic young artist from the profession altogether. If he could follow it and still retain his artistic spirit, it would nevertheless be very valuable to him. Coming now to the position of the youth in the office, it was to be feared that office routine furnished little inducement to him to keep up his general education, and that languages and mathematics are gradually dropped. The want of these is felt afterwards in travelling, and in applying the formulæ required in difficult constructions. In regard to this the Institute examinations were most useful, as requiring that the knowledge of school and college be kept up, and as suggesting also the special technical branches of study in which that knowledge would be useful. Coming now to drawing,—it was absolutely essential that every architect should be able to realise to himself the effect which the mass of his building would have if seen in perspective; to sketch out for himself the ornaments with which it was to be adorned; thoroughly to understand the effects which the various mouldings would have under varying effects of light and shade; and then to complete the work by thoroughly understanding the effect of colour which his materials and applied decoration would supply. For all these the best guide would be that intuitive perception which sketching from actual examples was likely to give. He attached great importance to the study and practice of perspective, being quite sure that if perspectives were more honestly drawn such things as false gables, with nothing behind them, would not be so common as they are. But perspectives should be such as to show truly the real outline and the light and shadow effect of the building, and not be made mere vehicles for colour, with impossibly tinted stones, slates, or tiles, whose colours exist only in the colour-box. In short, in drawing what we wanted was *form*, whether of mass or of detail, expressed in the most vigorous way, for study. Now as to the most important part of the whole, the design: no possible course of instruction could make a great architect, any more than a great poet. We know little of how the few "great" architects of older days, either in the Mediæval or Renaissance period, acquired their special power, but we might probably conclude that it was by the same kind of inspiration which was required to make a great poet, a great musician, or a great *any one*. But nevertheless something might be done for the young architect by way of education in design. Two ways might be suggested:—first, that pursued at the Architectural Association, where designs were made and then subjected to the friendly criticism of the author's fellow members. The second method was that pursued, he believed, at University College by Professor Poynter, who had his students' drawings ranged side by side and then pointed out in public to those same students the merits and defects of each drawing. So far, Professor Lewis quite agreed in training the young student in the art of design. Beyond it, he had little faith. This subject led naturally to the question between the relative merit of the English pupilage system and the foreign system of education. He had no time to go into this part of the subject in detail; but his views were strongly in favour of the English system of pupilage as a basis. But somewhat more freedom in its working was required than now, and that the pupil should have more time at his disposal for the study of those buildings whose outlines or whose details are recognised by common consent as being our realisation of what was beautiful and grand in our art. He had seldom put his name with greater pleasure to a deed than to that of the Pugin memorial fund, which sends the young student to the study, on the spot, of those buildings which he could never effectually study otherwise. As he draws them under various conditions of light and shade, they will teach the student, if he ever can be taught at all, the secrets of their excellence. Not that the production of a really accomplished architect could be ensured by this or any training; and he knew well that a man of real genius might force himself to the front, or be forced, whatever training he had had. But he maintained that for the general body of young architects, anxious to do what was right in their calling, and to do it well, a systematic course of education was a good thing; that is, would bring forward many a man who would otherwise have lagged in the rear, and elevate the general tone of their body in every branch of the profession.

A short communication on the subject of education was read by the secretary, from Mr. Arthur Hill, C.E., who spoke of the loss to the profession from the "accidental" form of education followed; urged that science and art should be united, and studied simultaneously; and that young architects and engineers might very well carry on the earlier studies for their respective professions in concert, and with mutual advantage. The inducement of a diploma to all architects before practising, and of recognised honours for those of special merit, should be held forth; and he recommended that this meeting should memorialise King's College and University College to establish diplomas for architects as well as engineers.

The secretary read also a communication from Mr. Robins (Fellow), who took much the same view that was advocated by several speakers at the previous evening's meeting, that we lived now in an age of specialties, and that architectural practice must necessarily be "sectionalised" much more than formerly.

THE DISCUSSION

on Professor Lewis's paper was then opened by Mr. Morris, who gave a sketch of his own process of education under the system of twenty or thirty years ago, with the view of suggesting how that knowledge of every branch of his profession which he had acquired under the old system could be brought within the reach of students in the present day.

Mr. Tarver, president of the Architectural Association, wished to express the views of some of the young students, as elicited at a recent meeting of the Association at which the subject was considered. It was suggested that there should be a recognised text-book of architectural study,—that before a youth entered an office this text-book should be put into the hands of his parents and guardians, so that they might really form some judgment as to what he was to learn, and how far he was fitted for it. [This touches a very important point; for it is certain that in many cases parents have scarcely an idea of the real requirements of the profession when they send a son into it.] There was a great want felt of a good lending library, to which pupils could have recourse. There was a feeling on the part of many pupils (and these the most industriously-disposed ones) that they should have time in the day allowed them, to a certain extent, for special studies, and not be left only the evening. That they should be sent to visit works in progress more [which is certainly most necessary, and ought to be distinctly understood in making any agreement between master and pupil]; and that during the last years they should be allowed to devote time to reading up for the examination, as in the legal profession. Mr. Tarver made the suggestion that pupils might often be articled with advantage to a young architect who was not overwhelmed with business, and would have time to give them instruction; at all events, for a year, before going into larger offices. Lastly, every member of the

Association at the meeting referred to was in favour of compulsory examination, and a diploma before practising.

Mr. Nash thought the whole thing was very simple: an architect was merely required to be a good constructor and a good artist (!) He ought to know as much of construction as an engineer; the word "engineer" did not mean building construction, a knowledge of which ought to be common to both professions. The word "architect" meant really "chief builder."

Mr. E. Hall thought no special training for any profession was possible at school; especially as youths seldom knew, during the earlier period of school life, what their profession was to be. The want of art education in the public and in the daily press was a very serious evil: the press misled the public continually in these matters.

Mr. Roger Smith thought they had better keep strictly to the subject before the meeting, which was the education of the architectural student. He thought a good general education before going into an office very important, but a knowledge of drawing, at least, equally so; and that no youth ought to be articled to an architect unless he had shown decided proficiency or talent in drawing beforehand. [Let parents and guardians take note of this.] Mr. Tarver's suggestion as to sending pupils to a young architect rather than into a large office where no one had time to think of them, he highly approved: he would go further than Mr. Tarver, and would say, "Send the youth for *four* years to the small office, and then let him go for one year to the big one to complete his education." But he thought systematic education beyond the office most necessary, and that there ought to be increased means for giving architectural education in a collegiate form, and for working in classes. Though he scarcely thought a diploma could be made compulsory, he hoped that in time its gradual recognition by the profession would draw a kind of fence round them to keep out incompetent and uneducated men.

Mr. Spiers thought the present preliminary education in schools very insufficient; there should be opportunity for a special preliminary college training for two years before entering an office, and then the pupil should be articled for three years only. It would be a very good thing if the Institute would publish an authorised text-book, indicating the requisite course of study for the profession; parents in general knew very little about it. There was a feeling expressed among the pupils at the Association that they were not thought of enough by their principals. He thought the principals would often be glad to do more for the pupils if they saw the precise way to accomplish it. He would suggest that where the principal had really no time to look after pupils, it might be part of the recognised duty of the chief assistant to look after and instruct them. He thought examination could only be made nominally compulsory, but if the profession generally accepted it, the public would respect it.

Professor Kerr said he had heard many discussions on the present subject, and there was one fault in all of them,—the idea, namely, that some machinery was to be provided by which young pupils were to be taken to the furthest point with the least possible trouble to themselves. [This, we think, is not at all a fair deduction from what has transpired of the feelings of the best of the students.] Now, the only chance for the architect to hold his own in the present day, was for him to be able to show that he could do what no one else could do; he must be able to build and to design *much better* than any one else could. And to this end students should desire to find out, not how much work there could be saved, but how much they could possibly accomplish. We must not be content with a mere pass-examination, it must be an examination to prove that each man knows *all* about his profession. An engineer was a non-artistic constructor; his instruction was entirely practical, and he did not accomplish art in the least. An architect was a building constructor applying art to his work. Let them keep hold of that, and at the same time master construction, and they would be doing what no one else was doing at present. There was no reason why architects should not carry out what were sometimes considered purely engineering works; many of the best stone bridges in the country, for instance, had been the work of architects. A member of that Conference (Mr. Hornblower) had invented an admirable fireproof floor, of which they saw a model; why did not architects turn their attention more to such things, without neglecting art? As to art education, there was quite enough elementary education already; what we wanted was the *higher* education. Every one who had passed the preliminary examination of the Institute ought to go in for the "proficiency" examination; but, instead of that, there were only five in two years. 2·5 candidates per year would never do.

Mr. Sharpe thought much more time and harder study were required to be really a good art architect than was generally recognised. He had twenty-five years ago abandoned the active practice of the profession, having before that time built about thirty churches, and supposing himself to have understood Gothic architecture pretty fairly then. And now, after twenty-five years of continuous study of the finest monuments of the art, his feeling was that he wondered how he had ever had the presumption to carry out anything at all in the former state of his experience and knowledge. He thought pupils should be allowed an interval every year, during which they could quit office routine and betake themselves to study of this kind.

Mr. Watson, referring to Mr. Kerr's remarks as to the examinations, said the object of them was to ensure that no one practising as an architect should be below a certain standard in knowledge and education; higher ability would be sure to develop itself afterwards, and much more individuality would be secured than by any attempt to frame a kind of school system for the whole of the profession. Foreign architects thought the development of distinct individual genius which existed in the English profession a very valuable thing. He thought that the present system of apprenticeship required to be altered in form and spirit, and that young architects should be distinctly *pupils*, and not apprentices.

In answer to a question by Mr. Spiers, as to whether students could in any way make use of the valuable collection of books in the Institute Library, Mr. Eastlake said he was very much surprised to hear the question asked. Over and over again it had been stated that any student bringing a recommendation from a member of the Institute was at liberty to use the library as much as he wished.

After a few words from Mr. Lewis in regard to one or two of the points raised in the discussion, the meeting adjourned.

### VISIT TO THE ALEXANDRA PALACE.

At twelve on Wednesday morning a considerable number of gentlemen met at the entrance of the new Palace on Muswell-hill, to go through the work, under the guidance of Mr. Lucas, the contractor. The party walked round the building first, and subsequently through the interior, which, however, is in too unfinished a state at present to be judged of, except in regard to general arrangement. The large concert-room, or festival-hall, will be a fine apartment. Its success acoustically will hardly be insured by the semicircular roof, with a good deal of glass, which is being constructed over it, unless something be adopted in the nature of the *velarium* with which the Albert Hall has familiarised us; but, in short, it does not appear that any attempt is being made to produce a concert-room based on any distinct principle in regard to sound and effect. The two picture-galleries seem to have a very satisfactory light, simply contrived. Ample area is provided for refreshment-rooms and every other convenience, and the large conservatory, lofty enough for almost any kind of vegetation, will be a fine feature of the building. The architectural style did not impress the visitors much, and criticisms were passed which might possibly have taken a milder tone had they been made *after*, instead of before, the very liberal and excellent lunch provided by the contractors, and about which there was no difference of opinion whatever. Mr. Currey, who acted as chairman, proposed the health of the contractors, Messrs. Kelk & Lucas, and prosperity to the Alexandra Palace Company, which was very heartily responded to; and Mr. Lucas, in returning thanks took the opportunity of saying how much they were indebted to Mr. Clements, the working manager at the building, for the admirable way in which the work was carried on. Subsequently Mr. Hornblower proposed the health of Mr. Currey and Mr. Roger Smith, the secretaries for the visits, which was responded to by the latter gentleman, Mr. Currey having been called away earlier by other engagements.

### RESPONSIBILITY OF ARCHITECTS.

At the meeting on Wednesday evening, the chair was taken by Mr. Vulliamy, vice-president, for the discussion of a promised communication by Professor Kerr, on the above subject. The paper read referred to a case in which the reader of it was lately concerned, and of which, as accounts of it have appeared in our columns as well as in those of the daily press, it is unnecessary to recapitulate the details. The object of the paper was to lay before professional brethren what the reader considered the great injustice to which they were liable by having charges against them of want of skill, &c., judged by a jury who were not acquainted at all, probably, with building operations, directed by a judge and counsel who were equally unacquainted with the subject. The legal mind, he considered, was quite at sea in regard to the nature of an architect's duties and responsibilities, and the reasoning employed in the case he referred to, and sanctioned by the bench, really amounted, in his opinion, to this: that the employment of an architect was considered to be a guarantee against misadventure to the client. Cases of this kind come into court, in fact, singular as it might appear, on exactly the same footing as a case of breach of promise of marriage: the defendant had failed to do something which he had promised to do—he had shown "want of due skill and attention"—and a jury had to decide how much he had been bound to do, and whether he had done it. The verdict of the jury, if given against the architect, might lay upon him responsibilities quite out of proportion to the primary injury complained of, under the theory of "consequential damage" to the client—damage supposed to have indirectly arisen out of the negligence complained of. The practical outcome of the paper was this, that under existing circumstances the architect was liable, at the instance of an *exigeant* or disingenuous client, to receive very hard measures at the hands of the law, owing to the, generally, almost total want of acquaintance with the subject on the part of those who had to advise upon and to find the verdict. The remedy for this danger to the profession was, in the first place, to be cautious whom they worked for, and never, on any account,—even at the instance of a client,—to accept a contractor in whose honesty and efficiency they could not have reasonable confidence. In regard to this point, he deprecated very much the following of the trade of building contractor in London by persons who had not really been bred to that trade, and were not even nominally carrying it on: building contracts for small works were often undertaken by persons who were in reality tradesmen in some special branch,—paper-hangers, painters, and others. But the main proposition of the reader of the paper was that a combination of persons interested in building and construction should be formed to provide for arbitration of disputes among themselves, instead of letting it go into the hands of the lawyers. The Institution of Civil Engineers, the Institute of Architects, the Institution of Surveyors, and the Builders' Society might jointly take the matter up, and form a committee of arbitration, to which matters of this kind might be referred. He also recommended that a committee of the Institute be appointed to inquire into the question of architects' responsibility.

The meeting was, at the request of the reader of the paper, considered as a private one, and we have therefore merely given in a general way the conclusions arrived at; and for the same reason shall only touch upon one or two of the points raised in the rather long discussion which followed (omitting names), especially as no definite resolution was arrived at. It was suggested that the building contract should be framed so as to include client, architect, and builder, in a threefold contract, so that the architect, in any dispute, would have the benefit of the arbitration clause which generally is, and always may be, part of the conditions of a building contract. This, we should say, would be to take the architect utterly out of his proper position, which is that of director of the builder and adviser of the client; he is not to be any party to litigation between the builder and the client, except as an arbitrator, so long as they will accept his arbitration. A good deal was said as to the importance of securing an efficient clerk of works, in order to guard against defective construction or materials being introduced which would give occasion for complaint and litigation,

and which the architect cannot by any possibility personally look after. No doubt this official may have a more important influence, for good or bad, on the work, and an architect cannot be too careful in ascertaining the real merits of a clerk of works, by personal inquiry before engaging him; and we may here allude to the injury done to the profession and to the public by the loose way in which, perhaps, out of a careless good nature, certificates and recommendations are sometimes given to completely incompetent persons for this position. But, after all said, we are of the opinion (which was expressed at the meeting by some of the older members present) that the clerk of works relieves the architect from no responsibility whatever. It was urged by one or two gentlemen that the clerk of works, being paid by the client, was his servant, and responsible to him; but this is not the right view of the matter. The clerk of works is a person under the orders of the architect and of no one else; the architect in effect, says to his client,—"I cannot look after this large work [at some distance perhaps] adequately in person without charging you exorbitantly for my time; your best way is to pay the salary of a clerk of works, who will carry out my orders in my absence." This is the plain English of the matter; and, in fact, as one speaker mentioned, it is very undesirable to allow a clerk of works to act much for himself; and in a case where the speaker had allowed his client to name his own clerk of works, he got into no little difficulty afterwards from the official in question having given his own directions as well as the architect's, and sending his own statement of what was due to the builder, in opposition to that of the architect. As another speaker said very truly, the clerk of works is only a *watcher*, put there by the architect to see that his orders are obeyed. In regard to the builder it is evident that, if the instructions of the architect are clear and unmistakable, the builder is responsible for injuries arising from any alteration which he may make without the architect's permission. In regard to the competency of legal gentlemen to decide on building cases, testimony was given that judges in such cases almost always wished to refer the case to arbitration; and counsel, if consulted previously, generally said at once, "refer it." Unfortunately, it was often referred *to a barrister*, on the judge's recommendation, which scarcely helped matters. There was a general feeling that arbitration by architects should be more provided for, and always resorted to, when possible, in any disputes. At the close of the discussion a motion was made that a committee of the Council of the Institute should be appointed to collect cases and precedents as to the responsibility of architects, and to report upon the matter to the next Conference. It was urged *per contra* that this would be imposing a very heavy task on the Council for a doubtful result, and that such a report, and the inquiries on which it would be founded, would only tend to raise questions and afford pretexts for dispute which might never be raised otherwise. The meeting in general adopted this view, and the proposition was negatived by a large majority.

We have one word to say in conclusion to our professional brethren who are interested in their own welfare and that of the profession at large—do not attempt to diminish the fair responsibility of the architect. Every one will sympathise (as several specially said at the meeting) with a member of the profession who has been mulcted by the law in a large sum in an apparently arbitrary way. But even if we accept in full what after all (we must be pardoned for saying) is somewhat of an *ex parte* statement, we should be very sorry to see any such cure as the one referred to made an excuse for architects, under fear of being victimised, endeavouring to lessen their responsibility for the work they carry out. Our advice is, let the architect be as careful as possible in the selection of the contractor, of the clerk of the works, of every one else who has to work under him—let him absolutely refuse to employ any doubtful man, and let it be clearly understood that he is to have everybody, so to speak, under his thumb: let him see that full and unmistakable directions are given to the builder, and then—let him fully accept the responsibility for the proper carrying out of the whole work, unless he can show that his orders have been absolutely disobeyed. The more confident the architect is in himself, the more he is absolute master of the whole operations and operators; and the more ready he is to accept his responsibility in full, the more will he be respected by his clients, and the higher will be his place in public estimation.

## THE METROPOLITAN BUILDINGS AND MANAGEMENT BILL IN COMMITTEE.

WE resume our notice of part of the evidence taken on the Metropolitan Buildings Bill, before the Select Committee of the House of Commons, Sir Seymour Fitzgerald in the chair.

Sir Joseph Bazalgette, engineer to the Metropolitan Board, in his evidence, stated, more particularly with reference to sewers, that the interests of the public were deeply involved in the sanitary clauses of the Bill. He considered that the junctions made between branch sewers and the main sewers should be under the direct supervision and control of the Board. It was within his knowledge that the formation of those junctions being left to private individuals had frequently caused damage to the main sewers of the Board, which had cost an enormous expense to construct. He thought the junctions should be made by the Board's workmen, and paid for by the private individuals. The clause further provided for the ventilation of sewers, and the trapping of inlets to house-drains, which was a very important point. In witness's opinion it was a necessary restriction that no person shall build a house so that the level of its drain should be below the crown of the Board's sewer, with which it communicated. The clause in the Bill providing this restriction was a very important clause indeed. The river Thames was the lowest point to which drainage could be obtained. Ordinary low water in the Thames was the lowest level to which drainage could be carried. They might take low water to be about the level of the Ordnance datum. There were many large districts of London, such as Bermondsey, the Isle of Dogs, Pimlico, Battersea, the level of the surface of which was only 8 ft. above Ordnance datum, or low water. Supposing it to be 5 ft. high, it would, at times of heavy rain, be filled with sewage, and therefore the sewage would be running at a level of 5 ft. above low water. If the surface was only 8 ft. above, it was running within 3 ft. of the surface. If a person could dig a hole into the ground, and put his basement 8 ft. deep the basement might get drainage into the bottom of that sewer in dry weather, but the moment there came a fall of rain, which filled up the sewer, the sewage running in was above the level of the basement, and instead of the drain discharging into the sewer, the sewer, without some provision, must discharge the sewage back into the house, and to avoid that a trap was put in, and the drainage was cut off. As long as that state of things existed those houses must be liable to be flooded, and the persons who occupied those houses thought when they were flooded, that they were very badly treated. In point of fact, there was nothing at the present moment to prevent a man's digging a hole into the ground to any depth, and putting his basement in below the level of low water, and then calling upon the Metropolitan Board to give him drainage. This was a state of things which ought not to exist. The principle upon which this was framed was that the level of the river, which fixed the line of the drains, being fixed and immutable, the houses must be built with regard to the level of the drains, as the level of the drains could not be altered with regard to the level of the basement. It was quite true that they got an artificial fall of water by pumping. They pumped 100,000,000 gallons a day, but a rainfall might come in London which would require 3,000 times that quantity, and therefore they must have a discharge by gravitation into the natural outfall of the river Thames.

Mr. Bazalgette (to the witness).—Is it within your knowledge that the Board have recently expended about 2,000*l.* in the case of flooding which occurred in the Isle of Dogs?

Sir Joseph Bazalgette.—Yes.

Mr. Bazalgette.—I believe, taking the Fleet sewer as a case in point, where the basements of a house had been constructed below the level of the sewer, the Board have spent 63,000*l.* to avoid flooding this house?

Sir Joseph Bazalgette.—They have; those houses ought never to have been put in to the depth they have been; the flooding has arisen entirely from this cause, and that expenditure has been involved.

In answer to a question as to the exemptions of railway-arches, the witness stated that he did not think there was anything so exceptional about a railway-arch as to warrant it being placed under the exemptions of the Act. When a railway-arch was let to private individuals for the purpose of trade, it came into the same category as a house let to anybody. They could not be compared to the buildings proper of a railway company, which are kept entirely in their own occupation. He thought it very necessary that where structures or grounds have become ruinous and dilapidated, and a source of public annoyance, there should be some public authority who might step in, in the interests of the public, and insist on the owner putting the building or the waste ground into a satisfactory state. All over London they had instances of the necessity of that. Two glaring instances had been mentioned to the committee. The one respecting the houses in Stamford-street, and the other Leicester-square. But in addition to these, in the East of London, particularly where railways had been constructed, and where the companies had purchased large quantities of land, there were awkward corners left which could not be utilised until some of the property in the neighbourhood was pulled down and reconstructed; and wherever there were spaces of that kind left in London, they became very great nuisances. He thought that was a crying evil in London. He did not know any places where he had seen those spaces so much abused. The provision that every wall should be constructed of good bricks was, in his opinion, an essential provision. He thought that to speak of materials as being simply stone, brick, or concrete, really meant nothing. Stone, for instance, might either be granite, or it might be a soft red sandstone. A brick might be a Staffordshire blue brick, or a Malm pavior, or it might be a place brick. There was almost as much difference between those as there was between iron and butter; and the same thing applied to concrete: they might have concrete formed of bad materials, bad lime, with a large quantity of gravel; instead of being clean and sharp, it might have mud in it, and it would tumble to pieces. It would pulverise completely. Concrete might be made in a proper way, so that it should be as hard as good ordinary stone. He had had a great deal of experience in concrete in the course of making the embankments, and works of that kind. He thought the Metropolitan Board of Works had done more for the introduction of concrete within the last ten or fifteen years than, perhaps, had ever been done before; and that had been done by their paying attention, first to the quality of the cement, by which they had got the manufacture of cement very much improved: and then, by having regard to the mixing of that cement, and the materials with which it was mixed. So far had they carried that, that they were now able to construct sewers of concrete in many cases at half the cost of brickwork, with the same strength. Again, in the case of the Embankment, they were enabled to construct the Chelsea Embankment entirely of concrete, with a veneered granite face, at one-third of the cost of the Victoria Embankment. The Victoria Embankment was granite, backed with brickwork. When they began the Victoria Embankment they should not have dared to do what they did when they got to the Chelsea Embankment; and he was one of those who believed that concrete would be much more used in buildings than it had been. From a sanitary point of view it was advisable, in his opinion, that the walls of dwellings should always have a damping course. It was also desirable that the ground surface or site of every dwelling-house, where not flagged over, should be covered with good concrete not less than 6 in. in thickness. He thought this provision in the Bill a very wholesome one.

The witness was cross-examined by Mr. Corrie, on behalf of the Commissioners of Sewers and the Corporation of London, with the view of eliciting from him an admission that the management of the sewers and buildings within the City should remain in the hands of the City authorities, but in reply to several questions he stated, that whilst he considered the Surveyor for the Commissioner of Sewers a very excellent and able officer, and perfectly competent to manage that department, his individual opinion was that one body having control over all those things was the best. He thought that as a principle, having reference to one particular city, there should be one general management, especially with regard to sewerage. If there was a necessity for exercising a general

control, he thought it should apply to all parts of London, under the management and superintendence of one body.

The next class of witnesses examined were several gentlemen who hold the office of District Surveyor, under the Building Act, in different parts of the metropolis. The first of these witnesses was Mr. Henry Hart, district surveyor for West Kensington. He said he had been eight years district surveyor, and had had about twenty-one years' experience in the Building Acts in the metropolis. With reference to the Bill before the Committee, he said that practically in the carrying out of his duties under the Acts of Parliament he found that there were several matters which he would desire to see improved. He had considered the clauses in the Bill generally, with a view to see whether they would obviate the objections which he found to arise in daily practice; and his opinion generally was that under their operation the district surveyors would have more control over materials than they now had in certain cases, and that they would have a better tribunal for disposing of their difficulties than the ordinary magistrates. He thought those were the two great points. Having considered generally the provisions of the Bill he thought they would effect improvements in the law which were desirable in the public interest. In cases of offence against the Act, it was the duty of the district surveyor to proceed before the magistrate, and he must conduct the proceedings at his own expense, and take the onus and responsibility of the litigation upon himself. He did not think that was a right position to put a body of gentlemen like the district surveyors in, and he was of opinion that, supposing the administration were cast upon the central authority, the district surveyors would more uniformly administer the provisions of the law without the pressure upon them personally that there now was. He thought it would be desirable to take power to include Willesden in the Act. A large town was springing up there, and there being no Building Act in operation, they built pretty much as they liked. There was no reason why Willesden, which was practically part of London, should not be included. It was as much a part of London as his own district was.

Mr. Frederick William Porter, architect, and district surveyor for Holborn and East Strand; Mr. Henry John Hanson, architect, and district surveyor for North Battersea; and Mr. Alexander Peebles, architect, and district surveyor for North Marylebone, were also called and examined, and they all confirmed the evidence of Mr. Hart that there was a necessity for an amended Building Act, and that it was desirable to alter the position of the district surveyors, both as regarded proceedings for offences under the Building Act, and also as regarded the payment of the surveyors. Mr. Porter was of opinion that they should be paid by salary instead of by fees as at present, and that the fees should be collected by the Board.

Mr. George Godwin, district surveyor for South Islington, was also called and examined with reference to his experience in building and sanitary subjects generally. In reply to Mr. Philbrick, the witness said he was the editor of the *Builder*, a publication devoted to the architectural and building professions, and to sanitary and social matters. For many years he had given his attention, and devoted a considerable portion of the columns of the *Builder*, to the discussion of matters arising in the profession with special reference to sanitary questions. This special attention he had given both with reference to London and the country, and he had himself written much on the subject. In this position he had frequently had to consider and discuss, and take part in the discussion of, the various views that had been presented from all quarters upon the subject, and he had formed his views after having had the benefit of such discussion. He certainly considered it desirable and necessary, in a Building Act for the metropolis, to have better provisions than at present with regard to sanitary matters. He had looked at the Bill generally, and considered it was an advance in the right direction, but it did not go far enough. He thought the provision for a layer of concrete at the bottom of a building was a very desirable provision.

Mr. Philbrick.—Do you think that would be an oppressive matter to require?

Witness.—No, I think it in many cases absolutely necessary. Many houses are simply put on the ordinary soil, and very often, indeed, the good soil is taken away and bad stuff put in; and, especially in Liverpool, disease has been traced to have proceeded from exhalations from such soil. I think a layer of concrete would be a very good provision.

Mr. Cawley.—You alluded to Liverpool, where you say great mischief has been done by low ground being filled up with all sorts of rubbish; but do you apply your answer to the entire metropolitan district, or is it only in exceptional cases where you would put the concrete?

Witness.—I apply it to the whole of the metropolitan district; throughout the suburbs hundreds of houses are built on the grass.

To Mr. Philbrick.—They are built on low-lying ground which is made by being a shoot for all kinds of rubbish. Builders very often take the sand out from the site of the house for the mortar, and then fill up the hole with even night soil, and anything that can be obtained. I consider that 8 ft. should be the minimum height of a room for human habitation. Basements below such a level that the level for draining it would be below the level of the crown of the sewer with which the drain would be connected, should not be allowed. Provisions for what the Bill calls a damping course are very necessary, but I object to the title; I should rather consider it a drying course. A damp-proof course is the usual term employed. The provision for basement-rooms with a wooden floor having a sufficient space between the ground and the floor surfaces not less than 6 in. to admit of ventilation by means of air bricks or otherwise, unless the ground is concreted over, is very necessary. It is indeed necessary even when the ground is concreted over. Evils have arisen, even in houses of a very good class, from the want of some such precaution. I certainly think it most desirable that there should be a supervision of building materials. We have in practice no power as regards that now. Such a power is required to provide against a certain class of unscrupulous speculative builders who cover the suburbs with small rotten houses. I think it is very undesirable to allow more than one story in a roof both as a matter of sanitary arrangement and as to the spread of fires. Mostly, rooms in roofs lead to disease to an enormous extent in London; they are usually unventilated, and very low; servants and children are put to sleep there, and consumption is the result, I am sure, in hundreds of cases. They are very hot in summer and very cold in winter, with bad air at both times.

Mr. Walter.—You said you thought that this Bill was a step in the right direction, but that it did not go far enough as to sanitary matters?

Mr. Godwin.—I think there are several blots in the Bill. One is as regards the covering in of an area at the back of a house. The Bill provides that there shall be an area of 150 ft.; the old Act says 100 ft. I think that 150 ft. is a very desirable improvement; but by the wording of the new Bill that area may be covered by a building the whole height of the main building, provided it is lighted by a skylight at the top; the result of which would be the creation of a mass of houses altogether unfit for habitation,—back-to-back houses, with no open area whatever. I think if that point were taken into consideration by the promoters they would see at once the necessity of altering it. There might be a building put up of three or four stories, provided there was a skylight at the top of it. The old Act provided that this area of 100 ft. should be left open altogether, but the exigencies of trade have led the Metropolitan Board and the district surveyors to permit the area on the ground story to be covered over, but not higher. The latter part of the same clause of the new Bill to which I have referred requires altering or explanation, because it says this area of 150 ft. is to be measured from the ceiling of the ground story upwards, which is altogether non-understandable. Inasmuch as the area required is, of course, horizontal, it cannot be measured upwards. Then I object to the exemption of water-closets attached to a house; being permitted to be of wood; that would be a most dangerous exemption. So that while a builder would be prevented from putting in a wooden frame within 4 in. of the outside wall, he might put a wooden box 25 ft. in area against his back door. I would suggest also that buildings not exceeding in area 50 ft. ought not to be of wood, as the Bill would permit.

Mr. Walter.—You would not allow water-closets to be exempted?

Witness.—No; they should be subject to control. No one objects to their being made of brick at present.

Mr. Cawley.—Are there any other points in which you think the Bill might be advantageously amended?

Witness.—I would like to see some further provisions with regard to increasing the width of existing streets; and as to the ventilation of houses.

Mr. Cawley.—With regard to new streets, do you think the arrangements are sufficient?

Witness.—Yes.

Sir J. Hogg.—You approve of the width of 40 ft. for streets?

Witness.—Yes; and I think that the height of buildings should be restricted.

In cross-examination by Mr. Howard, the witness stated that the limit proposed in the Bill as regards the size of manufactories and warehouses was most desirable. He thought it was so very desirable to make legislation uniform and certain that he should be unwilling to introduce exceptions for any particular district. 300,000 cubic feet were quite as much as should be permitted. No doubt it would be advisable to introduce a clause providing for a supply of water for the extinction of fires in all large buildings; but with all those provisions he would not have the cubical contents of the building any larger. They could not trust to those provisions entirely; they failed at the last moment. A good party-wall was worth all the fire-engines in London. If the proprietors of large buildings and manufactories undertook to make such provisions against fire, he did not think a clause might be yielded in their favour.

Mr. Robert Lewis Roumieu, architect, of Lancaster-place, Strand, examined, said he had been in practice nearly forty years, and had built warehouses, private houses, and buildings of all kinds, in the metropolis and elsewhere. Each successive Building Act had put more restrictions on buildings, and the result, from his experience, was that with regard to public safety and general sanitary matters the buildings had improved in proportion to the restrictions, because the restrictions were only on those things that were objectionable. He thought that in the metropolis there was a necessity for some alterations and amendments such as were embodied in the Bill. There was a great necessity with regard to low-class houses more particularly. The proposed regulations would not press unduly hard on a builder who desired to lay out his land advantageously. In his opinion they not only did not go beyond the fair requirements of public safety, but he thought they did not go sufficiently far. The extension of the limit to 300,000 cubic feet was undesirable. He would go back to 216,000 cubic feet. He had had considerable acquaintance with the architecture of Paris, and the limit in height there was 66 ft., which had been the limit since the middle of Louis XIV.'s time. He had watched buildings in Paris, and the restrictions had never prevented the development of Paris in any way. He did not think that hitherto the operation of the Building Act, as administered, had been harsh or unfair upon the public. Although these restrictions were imposed the public submitted to them without delay, and it was only scamping builders who found them oppressive upon them.

Mr. Hyman Henry Collins, architect, and local surveyor to the parish of Christ Church, Newgate-street, also gave strong evidence in favour of the Bill, but he thought with Mr. Godwin that, although the provision extending the areas behind houses to 150 ft. was an admirable provision, the clause was not clear in its wording.

Mr. Francis Fowler, architect, and member of the Metropolitan Board of Works representing Lambeth, and also chairman of the Buildings Act Committee, deposed to having been deputed by the Board, along with Mr. Ebenezer Saunders, to confer with the Institute of British Architects and the district surveyors, in order to ascertain their views, and to get their suggestions for a previous Bill. He also spoke to the practical difficulties which there were in working out the present Act, more especially in consequence of the magistrates and others not being able to agree as to what its real meaning was. The necessity for an amendment in the law had been present to the Board for years. It was very seldom that there was a meeting of the Building Act Committee but some subject was brought up, under the Building Act, which they were unable to deal with in consequence of the

and which the architect cannot by any possibility personally look after. No doubt this official may have a more important influence, for good or bad, on the work, and an architect cannot be too careful in ascertaining the real merits of a clerk of works, by personal inquiry before engaging him; and we may here allude to the injury done to the profession and to the public by the loose way in which, perhaps, out of a careless good nature, certificates and recommendations are sometimes given to completely incompetent persons for this position. But, after all said, we are of the opinion (which was expressed at the meeting by some of the older members present) that the clerk of works relieves the architect from no responsibility whatever. It was urged by one or two gentlemen that the clerk of works, being paid by the client, was his servant, and responsible to him; but this is not the right view of the matter. The clerk of works is a person under the orders of the architect and of no one else; the architect in effect, says to his client,—"I cannot look after this large work [at some distance perhaps] adequately in person without charging you exorbitantly for my time; your best way is to pay the salary of a clerk of works, who will carry out my orders in my absence." This is the plain English of the matter; and, in fact, as one speaker mentioned, it is very undesirable to allow a clerk of works to act much for himself; and in a case where the speaker had allowed his client to name his own clerk of works, he got into no little difficulty afterwards from the official in question having given his own directions as well as the architect's, and sending his own statement of what was due to the builder, in opposition to that of the architect. As another speaker said very truly, the clerk of works is only a *watcher*, put there by the architect to see that his orders are obeyed. In regard to the builder it is evident that, if the instructions of the architect are clear and unmistakable the builder is responsible for injuries arising from any alteration which he may make without the architect's permission. In regard to the competency of legal gentlemen to decide on building cases, testimony was given that judges in such cases almost always wished to refer the case to arbitration; and counsel, if consulted previously, generally said at once, "refer it." Unfortunately, it was often referred *to a barrister*, on the judge's recommendation, which scarcely helped matters. There was a general feeling that arbitration by architects should be more provided for, and always resorted to, when possible, in any disputes. At the close of the discussion a motion was made that a committee of the Council of the Institute should be appointed to collect cases and precedents as to the responsibility of architects, and to report upon the matter to the next Conference. It was urged *per contra* that this would be imposing a very heavy task on the Council for a doubtful result, and that such a report, and the inquiries on which it would be founded, would only tend to raise questions and afford pretexts for dispute which might never be raised otherwise. The meeting in general adopted this view, and the proposition was negatived by a large majority.

We have one word to say in conclusion to our professional brethren who are interested in their own welfare and that of the profession at large—do not attempt to diminish the fair responsibility of the architect. Every one will sympathise (as several specially said at the meeting) with a member of the profession who has been mulcted by the law in a large sum in an apparently arbitrary way. But even if we accept in full what after all (we must be pardoned for saying) is somewhat of an *ex parte* statement, we should be very sorry to see any such cure as the one referred to made an excuse for architects, under fear of being victimised, endeavouring to lessen their responsibility for the work they carry out. Our advice is, let the architect be as careful as possible in the selection of the contractor, of the clerk of the works, of every one else who has to work under him—let him absolutely refuse to employ any doubtful man, and let it be clearly understood that he is to have everybody, so to speak, under his thumb: let him see that full and unmistakable directions are given to the builder, and then—let him fully accept the responsibility for the proper carrying out of the whole work, unless he can show that his orders have been absolutely disobeyed. The more confident the architect is in himself, the more he is absolute master of the whole operations and operators; and the more ready he is to accept his responsibility in full, the more will he be respected by his clients, and the higher will be his place in public estimation.

## THE METROPOLITAN BUILDINGS AND MANAGEMENT BILL IN COMMITTEE.

WE resume our notice of part of the evidence taken on the Metropolitan Buildings Bill, before the Select Committee of the House of Commons, Sir Seymour Fitzgerald in the chair.

Sir Joseph Bazalgette, engineer to the Metropolitan Board, in his evidence, stated, more particularly with reference to sewers, that the interests of the public were deeply involved in the sanitary clauses of the Bill. He considered that the junctions made between branch sewers and the main sewers should be under the direct supervision and control of the Board. It was within his knowledge that the formation of those junctions being left to private individuals had frequently caused damage to the main sewers of the Board, which had cost an enormous expense to construct. He thought the junctions should be made by the Board's workmen, and paid for by the private individuals. The clause further provided for the ventilation of sewers, and the trapping of inlets to house-drains, which was a very important point. In witness's opinion it was a necessary restriction that no person shall build a house so that the level of its drain should be below the crown of the Board's sewer, with which it communicated. The clause in the Bill providing this restriction was a very important clause indeed. The river Thames was the lowest point to which drainage could be obtained. Ordinary low water in the Thames was the lowest level to which drainage could be carried. They might take low water to be about the level of the Ordnance datum. There were many large districts of London, such as Bermondsey, the Isle of Dogs, Pimlico, Battersea, the level of the surface of which was only 8 ft. above Ordnance datum, or low water. Supposing it to be 5 ft. high, it would, at times of heavy rain, be filled with sewage, and therefore the sewage would be running at a level of 5 ft. above low water. If the surface was only 8 ft. above, it was running within 3 ft. of the surface. If a person could dig a hole into the ground, and put his basement 8 ft. deep the basement might get drainage into the bottom of that sewer in dry weather, but the moment there came a fall of rain, which filled up the sewer, the sewage running in was above the level of the basement, and instead of the drain discharging into the sewer, the sewer, without some provision, must discharge the sewage back into the house, and to avoid that a trap was put in, and the drainage was cut off. As long as that state of things existed those houses must be liable to be flooded, and the persons who occupied those houses thought when they were flooded, that they were very badly treated. In point of fact, there was nothing at the present moment to prevent a man's digging a hole into the ground to any depth, and putting his basement in below the level of low water, and then calling upon the Metropolitan Board to give him drainage. This was a state of things which ought not to exist. The principle upon which this was framed was that the level of the river, which fixed the line of the drains, being fixed and immutable, the houses must be built with regard to the level of the drains, as the level of the drains could not be altered with regard to the level of the basement. It was quite true that they got an artificial fall of water by pumping. They pumped 100,000,000 gallons a day, but a rainfall might come in London which would require 3,000 times that quantity, and therefore they must have a discharge by gravitation into the natural outfall of the river Thames.

Mr. Bazalgette (to the witness).—Is it within your knowledge that the Board have recently expended about 2,000*l.* in the case of flooding which occurred in the Isle of Dogs?

Sir Joseph Bazalgette.—Yes.

Mr. Bazalgette.—I believe, taking the Fleet sewer as a case in point, where the basements of a house had been constructed below the level of the sewer, the Board have spent 63,000*l.* to avoid flooding this house?

Sir Joseph Bazalgette.—They have; those houses ought never to have been put in to the depth they have been; the flooding has arisen entirely from this cause, and that expenditure has been involved.

In answer to a question as to the exemptions of railway-arches, the witness stated that he did not think there was anything so exceptional about a railway-arch as to warrant it being placed under the exemptions of the Act. When a railway-arch was let to private individuals for the purpose of trade, it came into the same category as a house let to anybody. They could not be compared to the buildings proper of a railway company, which are kept entirely in their own occupation. He thought it very necessary that where structures or grounds have become ruinous and dilapidated, and a source of public annoyance, there should be some public authority who might step in, in the interests of the public, and insist on the owner putting the building or the waste ground into a satisfactory state. All over London they had instances of the necessity of that. Two glaring instances had been mentioned to the committee. The one respecting the houses in Stamford-street, and the other Leicester-square. But in addition to these, in the East of London, particularly where railways had been constructed, and where the companies had purchased large quantities of land, there were awkward corners left which could not be utilised until some of the property in the neighbourhood was pulled down and reconstructed; and wherever there were spaces of that kind left in London, they became very great nuisances. He thought that was a crying evil in London. He did not know any places where he had seen those spaces so much abused. The provision that every wall should be constructed of good bricks was, in his opinion, an essential provision. He thought that to speak of materials as being simply stone, brick, or concrete, really meant nothing. Stone, for instance, might either be granite, or it might be a soft red sandstone. A brick might be a Staffordshire blue brick, or a Malm pavior, or it might be a place brick. There was almost as much difference between those as there was between iron and butter; and the same thing applied to concrete: they might have concrete formed of bad materials, bad lime, with a large quantity of gravel; instead of being clean and sharp, it might have mud in it, and it would tumble to pieces. It would pulverise completely. Concrete might be made in a proper way, so that it should be as hard as good ordinary stone. He had had a great deal of experience in concrete in the course of making the embankments, and works of that kind. He thought the Metropolitan Board of Works had done more for the introduction of concrete within the last ten or fifteen years than, perhaps, had ever been done before; and that had been done by their paying attention, first to the quality of the cement, by which they had got the manufacture of cement very much improved: and then, by having regard to the mixing of that cement, and the materials with which it was mixed. So far had they carried that, that they were now able to construct sewers of concrete in many cases at half the cost of brickwork, with the same strength. Again, in the case of the Embankment, they were enabled to construct the Chelsea Embankment entirely of concrete, with a veneered granite face, at one-third of the cost of the Victoria Embankment. The Victoria Embankment was granite, backed with brickwork. When they began the Victoria Embankment they should not have dared to do what they did when they got to the Chelsea Embankment; and he was one of those who believed that concrete would be much more used in buildings than it had been. From a sanitary point of view it was advisable, in his opinion, that the walls of dwellings should always have a damping course. It was also desirable that the ground surface or site of every dwelling-house, where not flagged over, should be covered with good concrete not less than 6 in. in thickness. He thought this provision in the Bill a very wholesome one.

The witness was cross-examined by Mr. Corrie, on behalf of the Commissioners of Sewers and the Corporation of London, with the view of eliciting from him an admission that the management of the sewers and buildings within the City should remain in the hands of the City authorities, but in reply to several questions he stated, that whilst he considered the Surveyor for the Commissioner of Sewers a very excellent and able officer, and perfectly competent to manage that department, his individual opinion was that one body having control over all those things was the best. He thought that as a principle, having reference to one particular city, there should be one general management, especially with regard to sewerage. If there was a necessity for exercising a general

control, he thought it should apply to all parts of London, under the management and superintendence of one body.

The next class of witnesses examined were several gentlemen who hold the office of District Surveyor, under the Building Act, in different parts of the metropolis. The first of these witnesses was Mr. Henry Hart, district surveyor for West Kensington. He said he had been eight years district surveyor, and had had about twenty-one years' experience in the Building Acts in the metropolis. With reference to the Bill before the Committee, he said that practically in the carrying out of his duties under the Acts of Parliament he found that there were several matters which he would desire to see improved. He had considered the clauses in the Bill generally, with a view to see whether they would obviate the objections which he found to arise in daily practice; and his opinion generally was that under their operation the district surveyors would have more control over materials than they now had in certain cases, and that they would have a better tribunal for disposing of their difficulties than the ordinary magistrates. He thought those were the two great points. Having considered generally the provisions of the Bill he thought they would effect improvements in the law which were desirable in the public interest. In cases of offence against the Act, it was the duty of the district surveyor to proceed before the magistrate, and he must conduct the proceedings at his own expense, and take the onus and responsibility of the litigation upon himself. He did not think that was a right position to put a body of gentlemen like the district surveyors in, and he was of opinion that, supposing the administration were cast upon the central authority, the district surveyors would more uniformly administer the provisions of the law without the pressure upon them personally that there now was. He thought it would be desirable to take power to include Willesden in the Act. A large town was springing up there, and there being no Building Act in operation, they built pretty much as they liked. There was no reason why Willesden, which was practically part of London, should not be included. It was as much a part of London as his own district was.

Mr. Frederick William Porter, architect, and district surveyor for Holborn and East Strand; Mr. Henry John Hanson, architect, and district surveyor for North Battersea; and Mr. Alexander Peebles, architect, and district surveyor for North Marylebone, were also called and examined, and they all confirmed the evidence of Mr. Hart that there was a necessity for an amended Building Act, and that it was desirable to alter the position of the district surveyors, both as regarded proceedings for offences under the Building Act, and also as regarded the payment of the surveyors. Mr. Porter was of opinion that they should be paid by salary instead of by fees as at present, and that the fees should be collected by the Board.

Mr. George Godwin, district surveyor for South Islington, was also called and examined with reference to his experience in building and sanitary subjects generally. In reply to Mr. Philbrick, the witness said he was the editor of the *Builder*, a publication devoted to the architectural and building professions, and to sanitary and social matters. For many years he had given his attention, and devoted a considerable portion of the columns of the *Builder*, to the discussion of matters arising in the profession with special reference to sanitary questions. This special attention he had given both with reference to London and the country, and he had himself written much on the subject. In this position he had frequently had to consider and discuss, and take part in the discussion of, the various views that had been presented from all quarters upon the subject, and he had formed his views after having had the benefit of such discussion. He certainly considered it desirable and necessary, in a Building Act for the metropolis, to have better provisions than at present with regard to sanitary matters. He had looked at the Bill generally, and considered it was an advance in the right direction, but it did not go far enough. He thought the provision for a layer of concrete at the bottom of a building was a very desirable provision.

Mr. Philbrick.—Do you think that would be an oppressive matter to require?

Witness.—No, I think it in many cases absolutely necessary. Many houses are simply put on the ordinary soil, and very often, indeed, the good soil is taken away and bad stuff put in; and, especially in Liverpool, disease has been traced to have proceeded from exhalations from such soil. I think a layer of concrete would be a very good provision.

Mr. Cawley.—You alluded to Liverpool, where you say great mischief has been done by low ground being filled up with all sorts of rubbish; but do you apply your answer to the entire metropolitan district, or is it only in exceptional cases where you would put the concrete?

Witness.—I apply it to the whole of the metropolitan district; throughout the suburbs hundreds of houses are built on the grass.

To Mr. Philbrick.—They are built on low-lying ground which is made by being a shoot for all kinds of rubbish. Builders very often take the sand out from the site of the house for the mortar, and then fill up the hole with even night soil, and anything that can be obtained. I consider that 8 ft. should be the minimum height of a room for human habitation. Basements below such a level that the level for draining it would be below the level of the crown of the sewer with which the drain would be connected, should not be allowed. Provisions for what the Bill calls a damping course are very necessary, but I object to the title; I should rather consider it a drying course. A damp-proof course is the usual term employed. The provision for basement-rooms with a wooden floor having a sufficient space between the ground and the floor surfaces not less than 6 in. to admit of ventilation by means of air bricks or otherwise, unless the ground is concreted over, is very necessary. It is indeed necessary even when the ground is concreted over. Evils have arisen, even in houses of a very good class, from the want of some such precaution. I certainly think it most desirable that there should be a supervision of building materials. We have in practice no power as regards that now. Such a power is required to provide against a certain class of unscrupulous speculative builders who cover the suburbs with small rotten houses. I think it is very undesirable to allow more than one story in a roof both as a matter of sanitary arrangement and as to the spread of fires. Mostly, rooms in roofs lead to disease to an enormous extent in London; they are usually unventilated, and very low; servants and children are put to sleep there, and consumption is the result, I am sure, in hundreds of cases. They are very hot in summer and very cold in winter, with bad air at both times.

Mr. Walter.—You said you thought that this Bill was a step in the right direction, but that it did not go far enough as to sanitary matters?

Mr. Godwin.—I think there are several blots in the Bill. One is as regards the covering in of an area at the back of a house. The Bill provides that there shall be an area of 150 ft.; the old Act says 100 ft. I think that 150 ft. is a very desirable improvement; but by the wording of the new Bill that area may be covered by a building the whole height of the main building, provided it is lighted by a skylight at the top; the result of which would be the creation of a mass of houses altogether unfit for habitation,—back-to-back houses, with no open area whatever. I think if that point were taken into consideration by the promoters they would see at once the necessity of altering it. There might be a building put up of three or four stories, provided there was a skylight at the top of it. The old Act provided that this area of 100 ft. should be left open altogether, but the exigencies of trade have led the Metropolitan Board and the district surveyors to permit the area on the ground story to be covered over, but not higher. The latter part of the same clause of the new Bill to which I have referred requires altering or explanation, because it says this area of 150 ft. is to be measured from the ceiling of the ground story upwards, which is altogether non-understandable. Inasmuch as the area required is, of course, horizontal, it cannot be measured upwards. Then I object to the exemption of water-closets attached to a house; being permitted to be of wood; that would be a most dangerous exemption. So that while a builder would be prevented from putting in a wooden frame within 4 in. of the outside wall, he might put a wooden box 25 ft. in area against his back door. I would suggest also that buildings not exceeding in area 50 ft. ought not to be of wood, as the Bill would permit.

Mr. Walter. — You would not allow water-closets to be exempted?

Witness. — No; they should be subject to control. No one objects to their being made of brick at present.

Mr. Cawley.—Are there any other points in which you think the Bill might be advantageously amended?

Witness. — I would like to see some further provisions with regard to increasing the width of existing streets; and as to the ventilation of houses.

Mr. Cawley.—With regard to new streets, do you think the arrangements are sufficient?

Witness.—Yes.

Sir J. Hogg. — You approve of the width of 40 ft. for streets?

Witness.—Yes; and I think that the height of buildings should be restricted.

In cross-examination by Mr. Howard, the witness stated that the limit proposed in the Bill as regards the size of manufactories and warehouses was most desirable. He thought it was so very desirable to make legislation uniform and certain that he should be unwilling to introduce exceptions for any particular district. 300,000 cubic feet were quite as much as should be permitted. No doubt it would be advisable to introduce a clause providing for a supply of water for the extinction of fires in all large buildings; but with all those provisions he would not have the cubical contents of the building any larger. They could not trust to those provisions entirely; they failed at the last moment. A good party-wall was worth all the fire-engines in London. If the proprietors of large buildings and manufactories undertook to make such provisions against fire, he did not think a clause might be yielded in their favour.

Mr. Robert Lewis Roumieu, architect, of Lancaster-place, Strand, examined, said he had been in practice nearly forty years, and had built warehouses, private houses, and buildings of all kinds, in the metropolis and elsewhere. Each successive Building Act had put more restrictions on buildings, and the result, from his experience, was that with regard to public safety and general sanitary matters the buildings had improved in proportion to the restrictions, because the restrictions were only on those things that were objectionable. He thought that in the metropolis there was a necessity for some alterations and amendments such as were embodied in the Bill. There was a great necessity with regard to low-class houses more particularly. The proposed regulations would not press unduly hard on a builder who desired to lay out his land advantageously. In his opinion they not only did not go beyond the fair requirements of public safety, but he thought they did not go sufficiently far. The extension of the limit to 300,000 cubic feet was undesirable. He would go back to 216,000 cubic feet. He had had considerable acquaintance with the architecture of Paris, and the limit in height there was 66 ft., which had been the limit since the middle of Louis XIV.'s time. He had watched buildings in Paris, and the restrictions had never prevented the development of Paris in any way. He did not think that hitherto the operation of the Building Act, as administered, had been harsh or unfair upon the public. Although these restrictions were imposed the public submitted to them without delay, and it was only scamping builders who found them oppressive upon them.

Mr. Hyman Henry Collins, architect, and local surveyor to the parish of Christ Church, Newgate-street, also gave strong evidence in favour of the Bill, but he thought with Mr. Godwin that, although the provision extending the areas behind houses to 150 ft. was an admirable provision, the clause was not clear in its wording.

Mr. Francis Fowler, architect, and member of the Metropolitan Board of Works representing Lambeth, and also chairman of the Buildings Act Committee, deposed to having been deputed by the Board, along with Mr. Ebenezer Saunders, to confer with the Institute of British Architects and the district surveyors, in order to ascertain their views, and to get their suggestions for a previous Bill. He also spoke to the practical difficulties which there were in working out the present Act, more especially in consequence of the magistrates and others not being able to agree as to what its real meaning was. The necessity for an amendment in the law had been present to the Board for years. It was very seldom that there was a meeting of the Building Act] Committee but some subject was brought up, under the Building Act, which they were unable to deal with in consequence of the

inadequacy of the provisions of the Act. The present Bill had been prepared after first of all having the opinions of the officers of the Board, and then consulting delegates from the building trade, and the Institute of British Architects and district surveyors. He did not say that the Board had adopted all the suggestions, but to the best of their ability they had endeavoured to embody those suggestions which they thought were in the interests of the public.

The committee adjourned.

On the re-assembling of the Committee on Tuesday last, Captain Shaw was again called, and handed in a table showing, first the number of fires that have actually occurred in London since 1840, year by year; and secondly, the population of London, the number of houses, the number of people to each house, the people to each fire, and the houses to each fire. This table showed that while the population of London had increased during the last 34 years from 1,907,036 to 3,342,490, or 75 per cent., and the number of houses from 258,425 to 479,329, or 82 per cent., the number of fires had more than doubled, having increased from 681 to 1,548, or 127 per cent. The total number of fires during the 34 years, was 38,241.

Mr. Thomas Dickson Galpin, of the firm of Cassell, Petter, & Galpin, printers, was next examined. His evidence had special reference to the large new premises which his firm are erecting between the Old Bailey and Farringdon-street. He said that in laying out the new building they had not observed the limit with the vertical divisions, but in that part which was confined to the stowage of goods they had. The other portion of the witness's evidence had reference to the limit in the Bill as to the cubical contents of large buildings, and as to whether the premises they were erecting came under the head of warehouses, which he denied they did. It would be impossible to conduct such a business as theirs if they were restricted as to the cubical contents. Unless there was a dispensing power in certain cases inserted in the Bill, he should decidedly object to the Bill so far as the limit of cubical contents was concerned. The size of that portion of the building where they had disregarded the restriction as to cubical contents was 1,200,000 ft. They had been before a magistrate to determine whether their building was a warehouse within the meaning of the present Act, and the magistrate decided it was not a warehouse; and, therefore, when they laid out the premises which they were now erecting, which they supposed would be under the old Act, they concluded that they were not under the provision that would restrict them, and their anxiety now was lest they should be brought under the new Act, and under its restrictions, as they considered they were not under the restrictions of the old Act. The question of cubical contents was a question of the existence of their business. They could not carry on their business if limited in cubical contents.

Sir James Hogg, chairman of the Metropolitan Board of Works, was next examined, and stated that from the time when he was made chairman of the Board he had always stated at the meetings of the Building Acts Committee that modifications and alterations were required in the existing Act. That was from representations made by the legal adviser of the Board, and also from his own experience, before the Building Acts Committee, of the working of the Act. From time to time a great deal of care and consideration had been bestowed upon the Bill, which was in preparation even before he was a member of the Board. The witness next stated that it was entirely a mistake to say that the Association of District Surveyors, who appeared through the British Architects' Institute, were not consulted with regard to the Bill. He next said that in the course of the consideration of the Bill every interest was consulted. Deputations from all classes and everybody affected constantly attended before the Parliamentary Committee, and the present Bill had been founded on all that previous communication and consultation. It was the result of it. He considered that every one of those interests had been fully and amply consulted. With regard to all questions of construction, the architects, builders, and district surveyors had been consulted. The Board had not consulted anybody as to the position of district surveyors to be elected in the future. The Board considered that to be a question of policy which they would decide for themselves without asking for advice from anybody. The Board had thought it advisable that the district surveyors should report directly to the Board, and that the Board should take action with regard to offences against the Building Act. In order to secure uniformity, and to have the law universally administered in one way throughout the metropolis, it was desirable that the Board should have a general control of the district surveyors in that respect.

Dr. Ross, medical officer of health to the St. Giles's Board of Works, gave evidence in favour of the Bill with regard to its sanitary provisions and the height of rooms. His district was a very crowded one, and if they could get 150 superficial feet instead of 100 feet under the old Act, it would be a great improvement. He was strongly in favour of the provision for covering over the surface of the ground occupied by a building with a layer of concrete 6 in. thick. Unless that was done the health of London could not be very much improved. In reference to ventilation, the witness said that he did not quite understand the clause on the 71st page, the 6th schedule, the first rule in which said that "unless in any case the Board otherwise allow, every new building, being in whole or in part a dwelling-house, except where all the rooms therein above the ground story can be lighted and ventilated directly from a street or public place, or from ground adjoining and appropriated to the building, or to it in common with others, or by a skylight or otherwise from above." He did not understand the amount of space that was required there; it might not be larger than that table; it might be surrounded by houses; and if there was as much space as that they did not require the 150 superficial feet at the back or side.

Mr. Philbrick.—It might be a small space covered with a skylight?

Witness.—Yes.

Mr. Philbrick.—That is a defect in the Bill, which was pointed out by Mr. George Godwin, and which we immediately saw and recognised, and that must be altered, so as to secure the 150 ft.; this correction being made would that satisfy you?

Witness.—Yes; there should be a sufficient space in front, then the Bill would be a great improvement in that respect.

Dr. William Hardwicke, medical officer of health for Paddington, gave similar favourable evidence as to the sanitary provisions of the Bill.

This closed the case on behalf of the promoters.

Mr. Rodwell then addressed the Committee on behalf of the railway companies; after which

The Chairman stated that the view of the Committee was that it was not desirable that the general provisions of the Bill should apply to railway arches, further than that they should be enclosed by non-inflammable materials, where it was necessary that they should be enclosed; and where there were any railway arches which were used as habitations the same rule should apply to them as would apply to other dwellings.

On Wednesday, Mr. Garth addressed the Committee at considerable length, on behalf of Lincoln's-inn, and the Inner and Middle Temple, being exempted from the operations of the Act.

Mr. Corrie, the City Remembrancer, next made a statement on behalf of the Corporation of London in favour of the City not being included in the Act, and afterwards tendered himself for examination, when, in answer to questions from the Committee, he gave his reasons why he considered the City ought not to be brought under the provisions of the Bill. In cross-examination by Mr. Philbrick, he admitted that many improvements within the City boundaries had been effected by the Metropolitan Board of Works, including the construction of Queen Victoria-street.

Mr. Round next addressed the Committee on behalf of several wholesale traders, and was followed by Mr. Mackarell on behalf of certain large manufacturers, and also in support of the petition of the district surveyors. His address occupied the remainder of the sitting up to four o'clock, when the Committee further adjourned to Thursday.

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**A New Mansion** is to be erected at Lychett Heath, in the county of Dorset, for the Right. Hon. Lord Eustace Cecil, M.P., from the designs of Mr. David Brandon. The tender of Messrs. Simpson & Son, of Baker-street, Portman-square, has been accepted at 9,780*l*.

## THE PROPOSED DECORATION OF ST. PAUL'S.

THE objections we were forced most reluctantly to bring forward as against Mr. Burges's scheme have been endorsed and strengthened on all sides since we wrote; in fact, in the face of the universal condemnation expressed we cannot believe it possible that it will be proceeded with. Messrs. G. Cavendish Bentinck, James Fergusson, Edmund Oldfield, and T. Gambier Parry, members of the "Fine Arts Committee," appointed by the Executive Committee, and forming, exclusively of the Dean, two-thirds of that committee, have forewarded a formal protest against accepting the proposed designs. In the course of it they say:—

"Even if we could disregard the memory of Wren and the rules of style, and treat St. Paul's merely as a field for the experiments of the nineteenth century, Mr. Burges's design would be open to the following general objections:—

(1) That the quantity of colour introduced would needlessly obstruct or absorb light in an interior already too dark.

(2) That the variety of decorative materials, the crudeness and violence of many of the tints, and their want of subordination to one harmonising tone, would produce an effect at once confused and gaudy.

(3) That the removal of the surface from the blocks of stone of which St. Paul's is built, for the purpose of veneering the whole lower part with marble, and presenting to the eye joints of the veneers in lieu of joints of the stone, is, like all false constructions, false also in taste; whilst the very richness of the marble, when used thus wholesale, will lower its value for all special decoration, impair the effect of the numerous sculptured monuments, and render the carved woodwork of Gibbons quite out of keeping.

(4) That the gentlemen selected by Mr. Burges to execute his figure-subjects, and named to the Fine Arts Committee, instead of being the most eminent painters and sculptors of the day, or those who have most studied the Italian masters of the sixteenth century, are artists comparatively unknown, and chiefly practised in Gothic decoration.

(5) That to spend the money economised in the remuneration of artists upon a lavish profusion of marble and solid gilding would be a preference of material over design, which appears to be essentially vulgar; and if carried out on so large a scale in so important a building, would tend to the debasement of art, the corruption of public taste, and the discredit of the country.

As a practical conclusion, we submit that if, instead of the 40,000*l.* required for Mr. Burges's entire scheme (being about ten times the amount now in hand) a quarter of that sum were gradually laid out on a temperate, refined, and somewhat grave system of decoration, studying specially the expression of harmony between structure and ornament, more respect might be shown to Sir Christopher Wren, more light preserved in the building, and any errors committed in execution would be at once less offensive and less costly to correct."

Professor Donaldson suggests as the only way out of the difficulty an international competition; in the shape of the offer of premiums to the architects, painters, and sculptors of Europe for the best scheme for the decoration of the Cathedral. The Dean and Chapter should at once assure the public that the Cathedral is not to be veneered.

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## ARCHITECTURAL ASSOCIATION.

AN ordinary general meeting of the members was held last Friday evening, the 12th inst., Mr. E. J. Tarver (president) in the chair.

Mr. Bowes A. Paice (secretary) said that a list had now been made out of the officers of the Association nominated to serve during the ensuing year, the election of whom would take place at the next meeting.

The President asked if there were any more names to be added than had been received: if so, would they nominate them at the close of the meeting? He regretted very much the absence that evening of Mr. F. C. Penrose, who was unavoidably prevented from reading his promised paper on "The Influence of the Italian Cinque Cento on the Early French Renaissance"; but Mr. Penrose would be present at their next meeting, the closing night of the session. Mr. H. Herbert Carpenter, too, was to have read a paper, but that gentleman had consented to postpone it till the autumn.

Some short discussion then ensued upon the forthcoming Conference of Architects, the principal point raised being the question of the education of the architect, which the President stated that as their representative he would pay particular attention to when raised at the Conference.

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**South Kensington Museum.**—Lord Sandon stated, in reply to a question put on behalf of Mr. Mundella, that arrangements had been made for bringing the various departments at the South Kensington Museum more directly under the control of the Education Department at Whitehall. They were now virtually completed. The Secretary of the Education Department at Whitehall would also be secretary, and have control at South Kensington, and under Sir F. Sandford there would be an assistant-secretary, Mr. M'Leod. Besides these, the directorship of the Museum had been offered to and accepted by Mr. Cunliffe Owen, and Major Donelly and Mr. Redgrave had been offered directorships of the Science and Art Department.

## PUBLIC LIGHTS, AND THEIR IMPROVEMENT.

IT has often enough struck us, as it must have done many others, as a circumstance not a little singular, that little or no effort has as yet, in spite of all our science and art appliances, been made to improve the *lighting* up of London streets by night. In so uncertain a climate as we have, with such a certain length of wintery dulness and darkness, and with so much of darkness visible, and the consequent necessity of turning half the night into day, nearly or quite all the year round, it does seem a something wonderful that a little has not been done in the way of "lighting up" *artistically*. We do not here allude to special occasions, as Queen's birth-day illuminations and the like, but at all times, and certainly in all the great public thoroughfares, and public buildings, where opportunities are plenty for any amount of artistic illumination. Hitherto accident has, to all appearance, regulated such matters; a lamp, or a congeries of lights, is placed where it would seem to be most conspicuous, or where a vacant space offered on which to fix it, but that is all. The subject may serve to show how a good thing may come to be neglected, and what ample means there are by and through which to develop art and architecture, and its subsidiary arts, if they be but adequately attended to; and if not so attended to, how much is lost.

Our thoughts have been drifting into this subject through the question that has arisen in the House of Commons as to the retention or not of the beacon *light* in the clock-tower of the Houses of Parliament; placed there, as most will recollect, for the purpose of informing the outside public as to whether the House is or is not sitting. The mode in which this light has been made to show itself evidences, as well as anything can do, how difficult a thing it is to work in an artistic way in these days without "precedent" of some sort, or a something to go by. The subject comes under the general head of the artificial lighting of a great city, and is worth a few thoughts, and, may be, a hint or two.

The lighting up of the dark and narrow ways of the London of the last century, to go no further back, would surprise the present generation, could they but get a glimpse of it. The few-and-far-between oil-lamp, with but the smallest of flames, affording but just light enough to render the darkness visible, would scare a modern Londoner out of his sober senses. But it must at times have been a curious sight to see, nevertheless, and must have had its artistic advantages, for it necessitated, every now and then, and here and there, the carrying of "links," with long streamers of flame, and abundance of smoke; so that what was wanting in steadiness of light was sometimes made up by very intensity of illumination when you did get it. But those times are of the past, not to return, and gas-lighting has put out, perhaps for ever, the oil flame. But rude as was the oil-light, and the lamp in which it showed itself; it was probably not more rude in comparison to the present system of gas-lighting, than that is to what will one day be; for nothing can well be more wasteful, and certainly inartistic, than the present mode of utilising gas, and burning gas, and nothing, at least as far as the public streets are concerned, more ungainly than the tall lamp-posts which support the burners.

We are often told that we are a nation of shop-keepers; and it is certain that our London streets are all but void of attraction without the life and brightness which shops always give; and those shops are never so attractive as when lighted up at night time. It may be looked on as a curious thing, considering how much there is of science and art going on all around us, that no better or artistic way has been as yet devised than that usually seen of lighting up a shop, and making the window show more attractive. It evidences how much there is yet to be done in the way of improving on common things—to be seen everywhere. Sometimes the smart goods are even hidden and quite put out by the very light which ought to illuminate them and add to their attractiveness, and the fault is not that you cannot see the goods for want of light, but that the number of gas-jets is so great as to fairly hide and put out the very objects they are meant to show. All shadow is absent; there is no relief or contrast anywhere to be seen, and the objects exhibited lose in proportion. And what is perhaps as bad, the arrangement, when there is any, of the gas-jets and burners, is so irregular, and void of taste and *design*, that the obtrusive lights themselves, and their supports, fail to give the eye pleasure, bright as they are, and brilliantly pure as the gas-flame may be. We may usefully note here, as a pleasing exception to this rule, the mode, visible here and there, of surrounding the ring of gas-jets by a congeries of rings or circles of cut-glass drops, which serve to soften the light, and in themselves form a pretty object. There is one in a shop on the south side of the Strand happily arranged, and worth note.

If there be any who think this subject of lighting the shops and public ways of London a matter but of small moment, they should contrast the appearance of such a thoroughfare as Regent-street, while the highly-lighted shops are open, with the same street when they are closed, and the dull shutters hide their contents, and when the whole length of the street is dependent on the street-lamps for its illumination. The contrast is not a little striking, and exemplifies how night may be turned into day, or the day made to continue. Now, considering that this Regent-street is the best of our great thoroughfares, it does seem strange that a something has not before this been attempted to mend matters. One good idea, the result of accident, may be met with here and there; it is that of closing the glass-fronted shop at night with a light iron grating, instead of close shutters, and by leaving in it a bright light, so that during the night, after the shops are closed, and the street is in darkness, the interiors of these semi-lighted shops are visible, and continue to throw light into the street and on to the pavement. This has been done, as we say, here and there, for protection sake, and for safety of valuable property, and without thought of anything else; but it does more, for it helps to drive away the foggy chillness of the dimly-lighted, though always fashionable, highway. It seems a pity not to extend this plan of lighting a shop-filled street, useful in so many ways, both as a matter of police and consequent safety, and as a pleasant means of illumination. Indeed, may we not go yet further with this idea, and say that, with but a little judicious contrivance, these always-lighted shops might be made to partly, if not wholly, supersede the ordinary and insufficient parish lamps; and while on the subject of the street illumination by the parish lamps, we may mention that there is one ingenious contrivance, though perhaps a somewhat rough one, which is in use in some of the railway goods stations, coaling depôts, &c., which is not a little effective. It consists, though the details of it differ here and there, mainly of an inverted cone, having a powerful reflecting surface. Under, or at the base of this, the circle of gas jets, or sometimes a large argand burner, is placed; the whole being, in the better kind of lamp, enclosed in glass, so as to screen the light from the action of the wind, and from currents of air. It affords a very powerful and effective light, and no part of it, as in the common street-lamp, is lost. The light is all of it effective, and is thrown on the ground in a large circle. There are, it is true, one or two details, which, we think, admit of improvement in the working it out for purposes of street illumination, but in the main principle it is thoroughly good, and for the intersection of streets and crossings, it could hardly be better. We need but to mention the ordinary street-lamp: both the light itself, the glass shade in which it flickers away, and the stock-in-trade post of cast iron on which it is mounted, are all bad enough. To improve on them in any way, seems to be all but hopeless, so we must leave them to fate for the present at least, and only suggest this addition to their feeble illuminating power and non-effectiveness. We have made some careful notes on this subject, and feel convinced that the open shop, like the watchmaker's in Regent-street, with a lamp burning in it all night, together with the *cone-light*, as we will venture to call it, *in the middle of the street*, not on the pavement, and at the intersection of the crossings, would be an immense improvement over the present system.

We may now usefully come to the lighting up more or less of *towers*, and clock-faces, like that of the clock-tower of the Houses of Parliament. Nothing, perhaps, does more to brighten the dull length of a London night than the occasional sight of an illuminated clock, or other light above the ordinary level of the house-tops. It may not be quite so good and cheering to the Londoner by night as the lighthouse at sea is to the weather-beaten sailor, but it is hardly less so to very many London wanderers. It was a good thought of Sir C. Barry to illuminate the large clock-face of his clock-tower, but it does seem a curious mode of doing things, on the part of the powers that be, to cause this clock-face to be lighted up as it is at dusk, winter and summer, all the year round, but always extinguished at midnight! Why should this be? The most conspicuous, and the biggest clock in London, and the one true, as we are assured, to the second, and regulated through electric agency, by the unfailing clock-work of the Greenwich Observatory, might, one would have thought, be always visible, night as well as day, and during the *whole* of the night, from sunset to sunrise. The additional cost, comparatively slight, should not as we take it be allowed to hinder it, or to limit the public convenience. It is a subject well worth the attention of the public authorities, as now constituted, and who profess so earnestly to care for these things. We may here perhaps usefully remind the said authorities that the present mode of illuminating this great clock-face is exceedingly wasteful, and that with a little more thought and ingenuity in the mode of burning the gas, very much might be saved, probably quite enough to pay for the increased number of hours the gas would burn if continued the night through. We commend it to the attention of Government most earnestly.

Another useful and friendly light we desire to plead for, as it has been threatened with destruction and extinction, if it has not already been condemned. We allude, of course, to the light on the top of this tower, always alight while the House is sitting. It is certainly about the most ungainly and awkward contrivance one could well come across. An ugly and unsightly shelf or bracket cutting across the lantern of the tower, and disfiguring as much as is well possible the architecture of it. On this shelf, in a semi-round glass lantern, the light,—a very good and effective one, by the way,—is placed, and certainly does shine and glisten in all directions in which it can be seen. We say, in all directions in which it can be seen; for, being placed on the *west* side of the tower, it can be seen only on *three* sides, and very imperfectly even from the north and south, the tower wholly hiding it on the east. It is most surely objectionable enough as at present arranged, every way; but what more easy than to put it right? By placing the light *in the centre of the lantern* of the tower it would be visible on all sides alike,—north, south, east, and west,—and would show itself through the tracery window openings of the lantern in a singularly effective way, as we take it. No unsightly external shelf would be visible, and nothing seen of the light-giving apparatus, the light only shining through the openings of the pierced lantern, thus visible on every side. It is at least worth a trial. Anyhow the light should be kept, and it should be arranged so as not to disfigure the tower.

## ENGLISH MEDIÆVAL FOLIAGE.

MR. J. K. COLLING, who has so successfully made architectural foliage ornament a special study, has published the second, third, and fourth parts, which complete his work on Mediæval foliage,* the first portion of which we briefly noticed at the time of its publication. In congratulating the author on the completion of a very useful and well-got-up work, we may take the opportunity of commenting upon it a little more in detail.

The author includes in his work the art-foliage of England from the twelfth to the fifteenth century; his object being to give a complete illustration of the various types of "the *flora* of English architecture," in whatever form of growth it is to be found,—whether in the shape of capitals, of crockets, of moulding decoration, or of flat-coloured ornament,—and to afford the means of tracing the gradual development of one type from that of the preceding period. The four parts into which the book is divided do not, however, follow each other chronologically, but each starts from the same date and includes the whole of the periods treated of; nor is there any special system of grouping the examples according to their nature and subject. This arrangement renders each "part" of the book of value in itself, independently of the other parts, and this is, we suppose, what was intended; but for those who procure the whole work a consecutive

* Examples of English Mediæval Foliage, taken from Buildings of the Twelfth to the Fifteenth Century. By James K. Colling. London: published by the author, 150, Hampstead-road, N. W., and by B. T. Batsford.

inadequacy of the provisions of the Act. The present Bill had been prepared after first of all having the opinions of the officers of the Board, and then consulting delegates from the building trade, and the Institute of British Architects and district surveyors. He did not say that the Board had adopted all the suggestions, but to the best of their ability they had endeavoured to embody those suggestions which they thought were in the interests of the public.

The committee adjourned.

On the re-assembling of the Committee on Tuesday last, Captain Shaw was again called, and handed in a table showing, first the number of fires that have actually occurred in London since 1840, year by year; and secondly, the population of London, the number of houses, the number of people to each house, the people to each fire, and the houses to each fire. This table showed that while the population of London had increased during the last 34 years from 1,907,036 to 3,342,490, or 75 per cent., and the number of houses from 258,425 to 479,329, or 82 per cent., the number of fires had more than doubled, having increased from 681 to 1,548, or 127 per cent. The total number of fires during the 34 years, was 38,241.

Mr. Thomas Dickson Galpin, of the firm of Cassell, Petter, & Galpin, printers, was next examined. His evidence had special reference to the large new premises which his firm are erecting between the Old Bailey and Farringdon-street. He said that in laying out the new building they had not observed the limit with the vertical divisions, but in that part which was confined to the stowage of goods they had. The other portion of the witness's evidence had reference to the limit in the Bill as to the cubical contents of large buildings, and as to whether the premises they were erecting came under the head of warehouses, which he denied they did. It would be impossible to conduct such a business as theirs if they were restricted as to the cubical contents. Unless there was a dispensing power in certain cases inserted in the Bill, he should decidedly object to the Bill so far as the limit of cubical contents was concerned. The size of that portion of the building where they had disregarded the restriction as to cubical contents was 1,200,000 ft. They had been before a magistrate to determine whether their building was a warehouse within the meaning of the present Act, and the magistrate decided it was not a warehouse; and, therefore, when they laid out the premises which they were now erecting, which they supposed would be under the old Act, they concluded that they were not under the provision that would restrict them, and their anxiety now was lest they should be brought under the new Act, and under its restrictions, as they considered they were not under the restrictions of the old Act. The question of cubical contents was a question of the existence of their business. They could not carry on their business if limited in cubical contents.

Sir James Hogg, chairman of the Metropolitan Board of Works, was next examined, and stated that from the time when he was made chairman of the Board he had always stated at the meetings of the Building Acts Committee that modifications and alterations were required in the existing Act. That was from representations made by the legal adviser of the Board, and also from his own experience, before the Building Acts Committee, of the working of the Act. From time to time a great deal of care and consideration had been bestowed upon the Bill, which was in preparation even before he was a member of the Board. The witness next stated that it was entirely a mistake to say that the Association of District Surveyors, who appeared through the British Architects' Institute, were not consulted with regard to the Bill. He next said that in the course of the consideration of the Bill every interest was consulted. Deputations from all classes and everybody affected constantly attended before the Parliamentary Committee, and the present Bill had been founded on all that previous communication and consultation. It was the result of it. He considered that every one of those interests had been fully and amply consulted. With regard to all questions of construction, the architects, builders, and district surveyors had been consulted. The Board had not consulted anybody as to the position of district surveyors to be elected in the future. The Board considered that to be a question of policy which they would decide for themselves without asking for advice from anybody. The Board had thought it advisable that the district surveyors should report directly to the Board, and that the Board should take action with regard to offences against the Building Act. In order to secure uniformity, and to have the law universally administered in one way throughout the metropolis, it was desirable that the Board should have a general control of the district surveyors in that respect.

Dr. Ross, medical officer of health to the St. Giles's Board of Works, gave evidence in favour of the Bill with regard to its sanitary provisions and the height of rooms. His district was a very crowded one, and if they could get 150 superficial feet instead of 100 feet under the old Act, it would be a great improvement. He was strongly in favour of the provision for covering over the surface of the ground occupied by a building with a layer of concrete 6 in. thick. Unless that was done the health of London could not be very much improved. In reference to ventilation, the witness said that he did not quite understand the clause on the 71st page, the 6th schedule, the first rule in which said that "unless in any case the Board otherwise allow, every new building, being in whole or in part a dwelling-house, except where all the rooms therein above the ground story can be lighted and ventilated directly from a street or public place, or from ground adjoining and appropriated to the building, or to it in common with others, or by a skylight or otherwise from above." He did not understand the amount of space that was required there; it might not be larger than that table; it might be surrounded by houses; and if there was as much space as that they did not require the 150 superficial feet at the back or side.

Mr. Philbrick.—It might be a small space covered with a skylight?

Witness.—Yes.

Mr. Philbrick.—That is a defect in the Bill, which was pointed out by Mr. George Godwin, and which we immediately saw and recognised, and that must be altered, so as to secure the 150 ft.; this correction being made would that satisfy you?

Witness.—Yes; there should be a sufficient space in front, then the Bill would be a great improvement in that respect.

Dr. William Hardwicke, medical officer of health for Paddington, gave similar favourable evidence as to the sanitary provisions of the Bill.

This closed the case on behalf of the promoters.

Mr. Rodwell then addressed the Committee on behalf of the railway companies; after which

The Chairman stated that the view of the Committee was that it was not desirable that the general provisions of the Bill should apply to railway arches, further than that they should be enclosed by non-inflammable materials, where it was necessary that they should be enclosed; and where there were any railway arches which were used as habitations the same rule should apply to them as would apply to other dwellings.

On Wednesday, Mr. Garth addressed the Committee at considerable length, on behalf of Lincoln's-inn, and the Inner and Middle Temple, being exempted from the operations of the Act.

Mr. Corrie, the City Remembrancer, next made a statement on behalf of the Corporation of London in favour of the City not being included in the Act, and afterwards tendered himself for examination, when, in answer to questions from the Committee, he gave his reasons why he considered the City ought not to be brought under the provisions of the Bill. In cross-examination by Mr. Philbrick, he admitted that many improvements within the City boundaries had been effected by the Metropolitan Board of Works, including the construction of Queen Victoria-street.

Mr. Round next addressed the Committee on behalf of several wholesale traders, and was followed by Mr. Mackarell on behalf of certain large manufacturers, and also in support of the petition of the district surveyors. His address occupied the remainder of the sitting up to four o'clock, when the Committee further adjourned to Thursday.

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**A New Mansion** is to be erected at Lychett Heath, in the county of Dorset, for the Right. Hon. Lord Eustace Cecil, M.P., from the designs of Mr. David Brandon. The tender of Messrs. Simpson & Son, of Baker-street, Portman-square, has been accepted at 9,780*l*.

## THE PROPOSED DECORATION OF ST. PAUL'S.

THE objections we were forced most reluctantly to bring forward as against Mr. Burges's scheme have been endorsed and strengthened on all sides since we wrote; in fact, in the face of the universal condemnation expressed we cannot believe it possible that it will be proceeded with. Messrs. G. Cavendish Bentinck, James Fergusson, Edmund Oldfield, and T. Gambier Parry, members of the "Fine Arts Committee," appointed by the Executive Committee, and forming, exclusively of the Dean, two-thirds of that committee, have forewarded a formal protest against accepting the proposed designs. In the course of it they say:—

"Even if we could disregard the memory of Wren and the rules of style, and treat St. Paul's merely as a field for the experiments of the nineteenth century, Mr. Burges's design would be open to the following general objections:—

(1) That the quantity of colour introduced would needlessly obstruct or absorb light in an interior already too dark.

(2) That the variety of decorative materials, the crudeness and violence of many of the tints, and their want of subordination to one harmonising tone, would produce an effect at once confused and gaudy.

(3) That the removal of the surface from the blocks of stone of which St. Paul's is built, for the purpose of veneering the whole lower part with marble, and presenting to the eye joints of the veneers in lieu of joints of the stone, is, like all false constructions, false also in taste; whilst the very richness of the marble, when used thus wholesale, will lower its value for all special decoration, impair the effect of the numerous sculptured monuments, and render the carved woodwork of Gibbons quite out of keeping.

(4) That the gentlemen selected by Mr. Burges to execute his figure-subjects, and named to the Fine Arts Committee, instead of being the most eminent painters and sculptors of the day, or those who have most studied the Italian masters of the sixteenth century, are artists comparatively unknown, and chiefly practised in Gothic decoration.

(5) That to spend the money economised in the remuneration of artists upon a lavish profusion of marble and solid gilding would be a preference of material over design, which appears to be essentially vulgar; and if carried out on so large a scale in so important a building, would tend to the debasement of art, the corruption of public taste, and the discredit of the country.

As a practical conclusion, we submit that if, instead of the 400,000*l.* required for Mr. Burges's entire scheme (being about ten times the amount now in hand) a quarter of that sum were gradually laid out on a temperate, refined, and somewhat grave system of decoration, studying specially the expression of harmony between structure and ornament, more respect might be shown to Sir Christopher Wren, more light preserved in the building, and any errors committed in execution would be at once less offensive and less costly to correct."

Professor Donaldson suggests as the only way out of the difficulty an international competition; in the shape of the offer of premiums to the architects, painters, and sculptors of Europe for the best scheme for the decoration of the Cathedral. The Dean and Chapter should at once assure the public that the Cathedral is not to be veneered.

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## ARCHITECTURAL ASSOCIATION.

AN ordinary general meeting of the members was held last Friday evening, the 12th inst., Mr. E. J. Tarver (president) in the chair.

Mr. Bowes A. Paice (secretary) said that a list had now been made out of the officers of the Association nominated to serve during the ensuing year, the election of whom would take place at the next meeting.

The President asked if there were any more names to be added than had been received: if so, would they nominate them at the close of the meeting? He regretted very much the absence that evening of Mr. F. C. Penrose, who was unavoidably prevented from reading his promised paper on "The Influence of the Italian Cinque Cento on the Early French Renaissance"; but Mr. Penrose would be present at their next meeting, the closing night of the session. Mr. R. Herbert Carpenter, too, was to have read a paper, but that gentleman had consented to postpone it till the autumn.

Some short discussion then ensued upon the forthcoming Conference of Architects, the principal point raised being the question of the education of the architect, which the President stated that as their representative he would pay particular attention to when raised at the Conference.

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**South Kensington Museum.**—Lord Sandon stated, in reply to a question put on behalf of Mr. Mundella, that arrangements had been made for bringing the various departments at the South Kensington Museum more directly under the control of the Education Department at Whitehall. They were now virtually completed. The Secretary of the Education Department at Whitehall would also be secretary, and have control at South Kensington, and under Sir F. Sandford there would be an assistant-secretary, Mr. M'Leod. Besides these, the directorship of the Museum had been offered to and accepted by Mr. Cunliffe Owen, and Major Donelly and Mr. Redgrave had been offered directorships of the Science and Art Department.

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We are often told that we are a nation of shop-keepers; and it is certain that our London streets are all but void of attraction without the life and brightness which shops always give; and those shops are never so attractive as when lighted up at night time. It may be looked on as a curious thing, considering how much there is of science and art going on all around us, that no better or artistic way has been as yet devised than that usually seen of lighting up a shop, and making the window show more attractive. It evidences how much there is yet to be done in the way of improving on common things—to be seen everywhere. Sometimes the smart goods are even hidden and quite put out by the very light which ought to illuminate them and add to their attractiveness, and the fault is not that you cannot see the goods for want of light, but that the number of gas-jets is so great as to fairly hide and put out the very objects they are meant to show. All shadow is absent; there is no relief or contrast anywhere to be seen, and the objects exhibited lose in proportion. And what is perhaps as bad, the arrangement, when there is any, of the gas-jets and burners, is so irregular, and void of taste and *design*, that the obtrusive lights themselves, and their supports, fail to give the eye pleasure, bright as they are, and brilliantly pure as the gas-flame may be. We may usefully note here, as a pleasing exception to this rule, the mode, visible here and there, of surrounding the ring of gas-jets by a congeries of rings or circles of cut-glass drops, which serve to soften the light, and in themselves form a pretty object. There is one in a shop on the south side of the Strand happily arranged, and worth note.

If there be any who think this subject of lighting the shops and public ways of London a matter but of small moment, they should contrast the appearance of such a thoroughfare as Regent-street, while the highly-lighted shops are open, with the same street when they are closed, and the dull shutters hide their contents, and when the whole length of the street is dependent on the street-lamps for its illumination. The contrast is not a little striking, and exemplifies how night may be turned into day, or the day made to continue. Now, considering that this Regent-street is the best of our great thoroughfares, it does seem strange that a something has not before this been attempted to mend matters. One good idea, the result of accident, may be met with here and there; it is that of closing the glass-fronted shop at night with a light iron grating, instead of close shutters, and by leaving in it a bright light, so that during the night, after the shops are closed, and the street is in darkness, the interiors of these semi-lighted shops are visible, and continue to throw light into the street and on to the pavement. This has been done, as we say, here and there, for protection sake, and for safety of valuable property, and without thought of anything else; but it does more, for it helps to drive away the foggy chillness of the dimly-lighted, though always fashionable, highway. It seems a pity not to extend this plan of lighting a shop-filled street, useful in so many ways, both as a matter of police and consequent safety, and as a pleasant means of illumination. Indeed, may we not go yet further with this idea, and say that, with but a little judicious contrivance, these always-lighted shops might be made to partly, if not wholly, supersede the ordinary and insufficient parish lamps; and while on the subject of the street illumination by the parish lamps, we may mention that there is one ingenious contrivance, though perhaps a somewhat rough one, which is in use in some of the railway goods stations, coaling depôts, &c., which is not a little effective. It consists, though the details of it differ here and there, mainly of an inverted cone, having a powerful reflecting surface. Under, or at the base of this, the circle of gas jets, or sometimes a large argand burner, is placed; the whole being, in the better kind of lamp, enclosed in glass, so as to screen the light from the action of the wind, and from currents of air. It affords a very powerful and effective light, and no part of it, as in the common street-lamp, is lost. The light is all of it effective, and is thrown on the ground in a large circle. There are, it is true, one or two details, which, we think, admit of improvement in the working it out for purposes of street illumination, but in the main principle it is thoroughly good, and for the intersection of streets and crossings, it could hardly be better. We need but to mention the ordinary street-lamp: both the light itself, the glass shade in which it flickers away, and the stock-in-trade post of cast iron on which it is mounted, are all bad enough. To improve on them in any way, seems to be all but hopeless, so we must leave them to fate for the present at least, and only suggest this addition to their feeble illuminating power and non-effectiveness. We have made some careful notes on this subject, and feel convinced that the open shop, like the watchmaker's in Regent-street, with a lamp burning in it all night, together with the *cone-light*, as we will venture to call it, *in the middle of the street*, not on the pavement, and at the intersection of the crossings, would be an immense improvement over the present system.

We may now usefully come to the lighting up more or less of *towers*, and clock-faces, like that of the clock-tower of the Houses of Parliament. Nothing, perhaps, does more to brighten the dull length of a London night than the occasional sight of an illuminated clock, or other light above the ordinary level of the house-tops. It may not be quite so good and cheering to the Londoner by night as the lighthouse at sea is to the weather-beaten sailor, but it is hardly less so to very many London wanderers. It was a good thought of Sir C. Barry to illuminate the large clock-face of his clock-tower, but it does seem a curious mode of doing things, on the part of the powers that be, to cause this clock-face to be lighted up as it is at dusk, winter and summer, all the year round, but always extinguished at midnight! Why should this be? The most conspicuous, and the biggest clock in London, and the one true, as we are assured, to the second, and regulated through electric agency, by the unfailing clock-work of the Greenwich Observatory, might, one would have thought, be always visible, night as well as day, and during the *whole* of the night, from sunset to sunrise. The additional cost, comparatively slight, should not as we take it be allowed to hinder it, or to limit the public convenience. It is a subject well worth the attention of the public authorities, as now constituted, and who profess so earnestly to care for these things. We may here perhaps usefully remind the said authorities that the present mode of illuminating this great clock-face is exceedingly wasteful, and that with a little more thought and ingenuity in the mode of burning the gas, very much might be saved, probably quite enough to pay for the increased number of hours the gas would burn if continued the night through. We commend it to the attention of Government most earnestly.

Another useful and friendly light we desire to plead for, as it has been threatened with destruction and extinction, if it has not already been condemned. We allude, of course, to the light on the top of this tower, always alight while the House is sitting. It is certainly about the most ungainly and awkward contrivance one could well come across. An ugly and unsightly shelf or bracket cutting across the lantern of the tower, and disfiguring as much as is well possible the architecture of it. On this shelf, in a semi-round glass lantern, the light,—a very good and effective one, by the way,—is placed, and certainly does shine and glisten in all directions in which it can be seen. We say, in all directions in which it can be seen; for, being placed on the *west* side of the tower, it can be seen only on *three* sides, and very imperfectly even from the north and south, the tower wholly hiding it on the east. It is most surely objectionable enough as at present arranged, every way; but what more easy than to put it right? By placing the light *in the centre of the lantern* of the tower it would be visible on all sides alike,—north, south, east, and west,—and would show itself through the tracery window openings of the lantern in a singularly effective way, as we take it. No unsightly external shelf would be visible, and nothing seen of the light-giving apparatus, the light only shining through the openings of the pierced lantern, thus visible on every side. It is at least worth a trial. Anyhow the light should be kept, and it should be arranged so as not to disfigure the tower.

## ENGLISH MEDIÆVAL FOLIAGE.

Mr. J. K. Colling, who has so successfully made architectural foliage ornament a special study, has published the second, third, and fourth parts, which complete his work on Mediæval foliage,* the first portion of which we briefly noticed at the time of its publication. In congratulating the author on the completion of a very useful and well-got-up work, we may take the opportunity of commenting upon it a little more in detail.

The author includes in his work the art-foliage of England from the twelfth to the fifteenth century; his object being to give a complete illustration of the various types of "the *flora* of English architecture," in whatever form of growth it is to be found,—whether in the shape of capitals, of crockets, of moulding decoration, or of flat-coloured ornament,—and to afford the means of tracing the gradual development of one type from that of the preceding period. The four parts into which the book is divided do not, however, follow each other chronologically, but each starts from the same date and includes the whole of the periods treated of; nor is there any special system of grouping the examples according to their nature and subject. This arrangement renders each "part" of the book of value in itself, independently of the other parts, and this is, we suppose, what was intended; but for those who procure the whole work a consecutive

* Examples of English Mediæval Foliage, taken from Buildings of the Twelfth to the Fifteenth Century. By James K. Colling. London: published by the author, 150, Hampstead-road, N. W., and by B. T. Batsford.

arrangement would have been more useful, and would have appeared more orderly and symmetrical. The fourth part contains the author's historical and critical analysis of the subject. He points out in the introduction how much of the classic forms of foliage is to be traced in early Mediæval work; indeed, it may be said that the finest specimens of foliage of the "Transitional" period are those which most recall the foliated ornament of the Greeks, frequently in their style and feeling, sometimes even in form and outline. The distinction between the Greek and Roman *capital* foliage, the "acanthus-leaf," as it has been commonly termed, is adverted to more particularly than by other writers on the subject; Mr. Colling being desirous to emphasise the distinction that the Greeks employed sharp and pointed leaves, and the Romans a leaf with more rounded lobes, and more multiform in composition, and little resembling any natural form of acanthus-leaf. The distinction is very marked in connexion with one or two early examples of Greek foliage referred to by the author, but not so much so in regard to the best known and most developed Corinthian capitals; the sharp zigzag outline of the early leaf has all but disappeared from these. Still, the distinction between the Greek and Roman leaf is important, in regard to their construction; the Roman leaf being for the most part divided so far down and with such a development of the separate stalk from which each leaflet springs, as to convey the idea of an arbitrary arrangement instead of that spirit and unity, as of an actual growth, which distinguishes Greek as much as early Gothic foliage.

With the successive developments of Gothic foliage every one who has studied the subject at all is in a general way familiar; it is the speciality of the present work that it combines a succinct analysis of these developments with illustrations of the finest specimens of each. In regard to the style generally known as "Early English," Mr. Colling remarks that this should be looked on as the first combination of the Saxon and Norman spirit in art-workmanship; and quotes a significant sentence from the "Historical Essays" of Mr. Freeman (himself an earnest student of English architecture), to the effect that "the silent, gradual fusing of 'Saxons and Normans' is recorded by no chronicler, just because it was so silent and gradual. But we see it plainly enough in its results. It was the great work of the twelfth century." And, without refining too much on such relations between history and architecture, we may certainly admit the presence in the ornament of this period of a peculiar union of simple grace with strength and breadth of handling, which it is scarcely going out of the way to recognise as the result of the simpler and homelier spirit of the Saxon tempering the native sternness and massive spirit of the Norman art.

Mr. Colling devotes a paragraph to the defence of the more realistic spirit of foliage ornament which showed itself in the Decorated period; a defence which one may reasonably expect from an author who has studied the application of natural foliage forms to architectural ornament so fully. He says that:—

"Although this is a much closer rendering of natural form than at any other period, yet, at the same time, it will be found to give a conventional rendering of a much more subtle kind than is commonly met with in Mediæval work, and therefore of a higher class of art-workmanship. Even allowing, for the sake of argument, that it is a too literal rendering of nature, still, it forms in that case a much better point of departure for modern study and imitation. Our increased skill and knowledge ought necessarily to cause modern work to go closer to nature, and yet be more truly architectural in fitness and beauty than in any other previous style. However beautiful the conventional foliage of former times may be, it is not enough that we content ourselves by slavishly copying it; but if we desire to advance the cause of higher and truer art, we should determine to evolve a style of work essentially our own, which, I conceive, must be extremely close to nature, and yet be something better, and far higher than a mere imitation of nature on the one hand, or of Mediæval art on the other."

With the last portion of these remarks we entirely concur; but we think the verdict now almost universally passed against the foliage of the Decorated period, as compared with the earlier work, is the right one, and for this reason,—architecture, in drawing from nature, imitates principles rather than forms (which Mr. Colling by implication admits in the above passage), and the carvers of the Decorated period had lost sight of that principle of growth which is the characteristic of all natural foliage,—growth from a main stem; they had taken the accidents of foliage rather than its essence; they had ceased to represent the ornament in the bells of their capitals (for instance) as something naturally springing from the architectural basis, as a growth essential to the completion of the whole, and had given it the look rather of an applied ornament; not any necessary part of the work, but a stone garland added to give richness to it. They neglected, too, the principle of conventionalism to a great extent, and of adapting the ornament to the situations it was to fill; and in this respect the decoration of the "Perpendicular" period is really better and more truly architectural in principle, adapting, as it does, forms based upon the growth of plants to the square symmetrical spaces which the architectural design provides, and which afford the proper field for the introduction of ornament. The example of "perpendicular" ornament given by Mr. Colling at fig. 60 (from All Saints', Evesham), though a small and simple specimen, represents admirably all the true characteristics of architectural foliated ornament; and, we may add, represents the same principle of working which our author has himself applied to several successfully ornamented buildings.

The chapter on "Coloured Decoration" is carried to some length; the use of foliage in this branch of Gothic ornament has received less attention than has been given to carved ornament; but it must be said that the field is much more restricted. A good deal of the Mediæval coloured ornament has perished, or is yet to be disinterred from under subsequent paintings and whitewash of the churchwarden era; and what there is known is far inferior in value as artistic work to the Gothic stone carving. This, of course, it would be treason to say to the enthusiastic and unreasoning Mediævalist, who, however, is not so prevalent a nuisance now as a little while since. The suggestion that the Mediæval coloured decoration "progressed and was developed along with the study of heraldry," may be accepted as probable; "indeed, the whole architecture of our country is, without doubt, strongly imbued with the heraldic feeling of the times. It is therefore but natural that we should find the use of colours assimilating with their use in heraldry." In particular, Mr. Colling points out, not only the similarity in the dispositions of colours, to the rules observed respecting "tinctures" and "metals" in heraldry, but also the system so frequently used, of interchanging the two principal colours in a scheme of decoration, recalling what is called *counterchange* in heraldry. We trust we may be pardoned for suggesting that the same influence may also possibly account for the rawness and crudity of the colours, and the conventional and unrefined methods of arranging them, which characterise the coloured decoration of Mediæval architecture so largely. After enumerating a few simple rules which appear to have guided the Mediæval colourist, and one or two of which (for instance, the use of positive colours only in small quantities, and the forming of diapers in different tones of the same colour), pervade every school of coloured decoration that has produced anything at all tolerable, the author adds,—"These rules, simple as they appear to be, combined with a limited scale of colour, was apparently all that was needed for the decoration of the most elaborate works."

Putting aside the grammar and punctuation of the above sentence, which we hope a second edition may give a speedy opportunity of amending (along with other similar lapses here and there), we may say that unfortunately it was the case that these rules *was* all that was thought necessary in decorating the largest buildings; and a very coarse and barbaric result was obtained from them in too many cases. Indeed, the rule as to not employing primary colour in large quantities was not much observed; and the crudities of red, yellow, and blue, of which remains have been found here and there, have been wickedly made use of by sundry painting restorers, as an excuse for bedizening the walls of our cathedrals and churches afresh in the same style, as has been recently done, for instance, in what is termed the "restoration" of the beautiful little late memorial chapel adjoining the south choir aisle of Exeter. Mr. Colling gives his colour specimens in shaded drawing only, each character of shading standing for a colour. We recommend young students to colour these designs according to the notation, and then try a second copy and see if they cannot invent more delicate and harmonious combinations themselves.

It is not necessary to the glory of the English Gothic style, however, to get up any undue praise for its less artistic details, such as those of colour. Studied in its masonic details, such as those which are here illustrated, it may challenge the world for beauty and fitness combined with spirit. If there is less of Mr. Ruskin's "wolfish" element here than in French architecture, there is more of grace and refinement, not excluding largeness and breadth of style. The "semi-Norman" capitals in Part II., from Canterbury and from Oakham Castle, especially the latter, are beautiful examples of the perfection, to our thinking, of the application of foliage types to architectural decoration; large and bold in their outline and composition, finished and elegant in their smaller details. We cannot indicate particular plates very readily, for the copy furnished to us wants the numbers, though we presume it is bound in the right order of the plates. The well-known rich Decorated carving of Southwell receives good illustration in Part II.; and in the fine drawing of the impost of the chapter-house doorway given in Part III. In the same volume the early capitals from Oxford Cathedral, exhibiting that peculiar form of the "Early English" foliage before it developed into its characteristic freedom, and when the stems are still straight and stiff in design, are very suggestive; and we should invite attention to the arch decoration from the tomb of Abbot Coates at Tewkesbury, where a single leaf is repeated in alternate positions, as an excellent specimen of symmetry and variety combined, on a principle which might be equally well applied to some of the forms of repeating ornament in use in Classic buildings.

In the same volume, the I.H.S. monogram from East Harling, Norfolk, and the exquisite specimens of running ornament from the pedestals in the niches of Henry VII.'s Chapel, are details of which it is always pleasant to be reminded. In the fourth volume are, among others, some beautiful small bits, capitals from Lincoln, spandrels from Bishop Cantilupe's shrine at Hereford, a grand bit of running scroll ornament from the founder's tomb at Tintern, and wall diapers from Lincoln, Winchelsea, and Beverley. In regard to the execution of the drawings, it is scarcely necessary to say that it is of a high order, and fulfils all the purposes of such illustrations. We should have preferred to see such a system of shading and touching carried out as would have distinguished stone from wood by an obvious difference of texture; as it is, there is not the least difference, in the handling of the drawing, between some of the stone carving represented on one page and similar designs in wood on the next. We are inclined to think the stonework would have been better represented by fewer touches and less surface-shading, and this would have rendered easier the distinction of texture we should have desired for the wood-work. This, however, is a minor matter, and we can cordially wish, and all but promise, success to a book which exhibits so much work that every student of architecture must admire and value, so well, and at such moderate expense.

## EGYPTIAN ARTS.

PROFESSOR OWEN, in a recent paper "On the Ethnology of Egypt," said that the subject of his paper did not refer so much to the crania of the early natives of Egypt, but to the sculptures, which were either of half natural size or the whole natural size. All of these showed no trace of conventionalism, but proved that portrait sculpture in Egypt existed 6,000 years ago, and that surviving relatives were then in the habit of preserving the images of those who had gone before. He described the family sculptures which had been discovered by Mariette Bey at Memphis, and which comprised in the first place a small temple of which the walls were usually adorned with *freschi*. The coffins of the originally interred dead had disappeared. There was usually a perforation in the walls of these tombs, through which the hand and arm might be passed. This hole was used, as shown by one of the *freschi*, to incense the corpse through, the censer being ignited by a blow-pipe. Evidence thus existed of reverence for the dead and of religious ceremonial amongst the ancient Egyptians. Such individuals must have died in the reign of the immediate predecessor of Cheops, who was the first king of the fourth dynasty, about B.C. 4,449. He did not consider that Egypt owed its civilisation to a low race, but to a race equal in development to those of the present day. He described their civilised dress and skill in artistic ornamentation. Some

of their sculptures were even carved in the hardest mineral (dionite) found in Egypt. Each city had its patron saint, and the emblem of the Supreme. A winged circle was more beautiful than the anthropomorphised figures of the later Christian art, which often represented the Father as a venerable man with a grey beard. In conclusion, Professor Owen referred to the fact that the fertile agricultural soil of Egypt enabled the human mind to improve itself by the art of war and religion. The arts of the goldsmith and jeweller have not advanced during the 3,574 years which have passed since the Egyptian princess left her jewels, which were shown at the Paris Exhibition.

## CONCRETE LIGHTHOUSE AT JERSEY.

For many years it has been proposed to erect a lighthouse on the Corbiere Rock, on the south-western part of island of Jersey. Eighteen months ago the States of Jersey decided to erect one, and instructed Sir John Coode, under whom the new harbour works at Jersey are being carried out, to superintend the work. The light-house has been successfully completed and lighted. It stands on an elevated rock about 500 yards from the mainland, and is surrounded on all sides by vast rocky beds, which extend a considerable distance seaward. The building is entirely of Portland cement concrete blocks, and is the first of the kind which has been so constructed. The top of the rock on which the lighthouse stands is 109 ft. above the mean level of the sea, and the light itself 135 ft. 6 in. The lantern is 10 ft. in diameter, manufactured by Messrs. Chance, Brothers, of Birmingham, the illuminating apparatus being dioptric of the second order, and the light visible at a distance of seventeen miles. A large fog bell is connected with the light.

## THE METROPOLITAN INNER CIRCLE COMPLETION RAILWAY BILL.

THE Metropolitan Inner Circle Completion and Eastern Extension Railway Bill, which involves the construction of new streets in the City, towards the cost of which the Metropolitan Board of Works and the Corporation have agreed to contribute 500,000*l*., was partially sanctioned before the Committee of the House of Commons, after having been before the Committee for several days, during which the opposition to it was based chiefly on the ground that the promoters would not be able to raise the large capital required to carry out the undertaking, amounting to 3,000,000*l*.

When the inquiry was resumed before [the Committee, Sir James Hogg, the chairman of the Metropolitan Board of Works, gave evidence as to the desirability of the scheme in consequence of the relief it would afford the street traffic of the City. He added, however, that although the Metropolitan Board of Works and the Commissioners of Sewers, on behalf of the Corporation, had jointly agreed to contribute 500,000*l*. towards carrying out the street portion of the undertaking, not a farthing of that amount would be paid until the proposed new streets were completed, and handed over to the Board.

Sir Edward Watkin, M.P., chairman of the Metropolitan Railway Company, who are also the promoters of the Aldgate and Cannon-street line, was the next witness called by Serjeant Sargood, on behalf of the promoters, but he caused much surprise and considerable sensation in the Committee-room by stating, in answer to the learned counsel, that there was no ground whatever for the statement that he and his directors had been induced to abandon the works portion of their own Bill, and to become supporters of the one before the Committee. Notwithstanding that the Metropolitan Board of Works were of opinion that the Inner Circle Completion and Eastern Extension Bill then before the Committee was the most likely for completing the Inner Circle, he (Sir Edward Watkin) and his directors still believed that their own Bill was the best, and it would be a fatal error to suppose that in not opposing they were supporting the Bill then before the Committee.

Evidence was given on behalf of the Great Eastern Company, and also the North London Company, against the Bill, to the effect that by railway, tramway, and omnibuses, the eastern traffic was amply provided for, and that there was no necessity whatever, for the proposed Eastern Extension line. After consulting, the committee stated that they were not inclined to sanction the Eastern Extension, and left it to the promoters to decide whether they would proceed with the part of the Bill for the completion of the Inner Circle only, and an adjournment took place.

When the committee re-assembled, it was stated on behalf of the promoters that they were prepared to withdraw that part of the Bill for the Eastern Extension line, and the committee then declared the preamble of the Bill proved, so far as the completion of the Inner Circle. The clauses as to the construction of the new streets in the City, and other matters were gone through, and settled.

It is supposed that in consequence of the decision arrived at under which the Eastern Extension project is abandoned, the Metropolitan Board of Works and the Corporation will rescind the resolution to contribute the 500,000*l*. towards the construction of the new streets, and it is not improbable that in that event the Bill will be withdrawn before it reaches the House of Lords. Should this be so, the City improvements forming a part of the undertaking will be imperilled.

## NEW PUBLIC HALLS FOR GLASGOW.

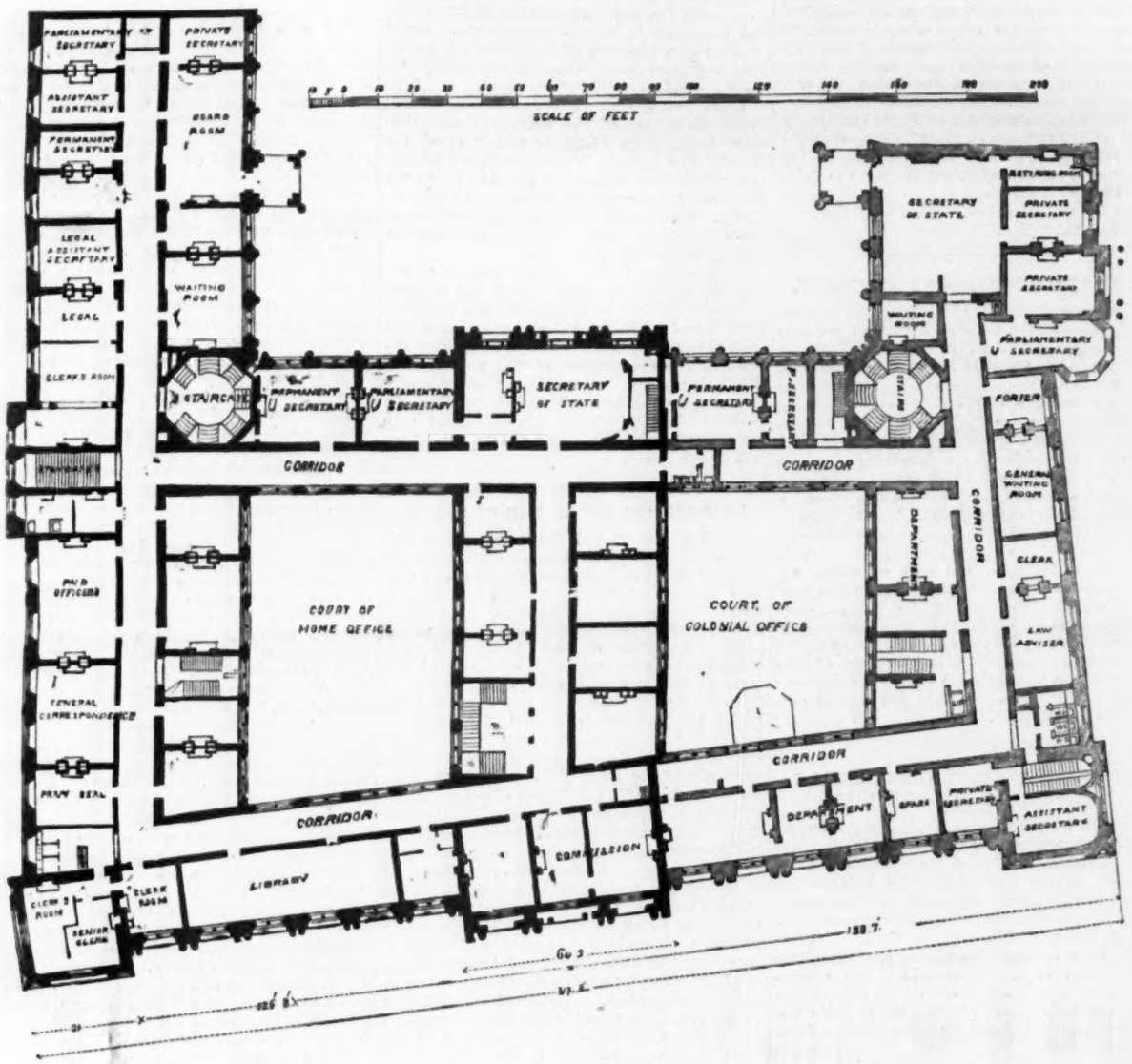
THE fact that the existing Glasgow City Hall affords but very limited accommodation for the Glasgow public on important occasions, and that it is situate in a very inconvenient locality, so far as its approaches are concerned, led to the formation of a company for building new public halls. The Dean of Guild Court (the local authority in such matters), approved of the plans of the new undertaking. The principal front to Granville-street is nearly 200 ft. long, whilst to Berkeley-street and Kent-road the length is fully 160 ft. The great hall occupies the east side of the entire block, and will, independently of the north gallery, be 163 ft. long. Its width is 75 ft., and height of ceiling 56 ft., being 22 ft. higher and a quarter wider than the City Hall, with a floor space on the area nearly one-half greater; and its height of ceiling will give upwards of one-third more cubic contents of air to each of the audience than is available in the existing building. This hall has also the great advantage of being on the street level, in which respect it will contrast favourably with many of the other public halls in the city. It is entered from Granville-street by a triple door leading through a large octagonal and roof-lighted hall. Whilst the great hall occupies the eastern portion of the site, the front half contains two large halls, 75 ft. by 40 ft., one on each side of the octagon-hall, which are all *en suite* with the great hall. In the front of the ground-floor are various waiting-rooms, with refreshment and service rooms, &c.; and above these a number of smaller rooms, suitable for society meetings. The whole upper portion of the front building consists of two spacious halls, 70 ft. by 54 ft., with a complete suite of retiring and other rooms. The basement is occupied by waiting, refreshment, and retiring rooms for male and female *artistes* at concerts, &c., besides kitchens, hall-keeper's residence, &c. The new structure will be in the Greek style of architecture, the principal front having an Ionic colonnade. It is not intended to lavish undue ornamentation on the exterior of the building, which will be erected with an eye to quiet, harmonious effect. The total cost of the buildings, independent of the site, &c., will be about 56,000*l*. The work of construction will be proceeded with immediately. The contractor for the masonry, &c., is Mr. James Watson, of Glasgow; and for the joinery and carpenter work, Mr. George Gilroy, of Edinburgh. Mr. Campbell Douglas, of Glasgow, is the architect.

**The Artists' Rifle Corps.**—An address has been circulated by officers of the Artists' Rifle Corps, asking the help of those who are connected with art in its various branches, and who, therefore, it may be hoped, take some interest in the well-doing of the Corps which represents them. Those who are themselves able to join the ranks, are earnestly invited to enrol themselves; and those whom any cause absolutely prevents from joining, are begged to bring the matter before such of their acquaintance as are in a position to do so. The Major commanding is Mr. Fredk. Leighton, R.A. The architects amongst the officers who sign the appeal are Messrs. Edis, Lacy Ridge, J. H. Christian, and Bowes Paice.

## THE NEW HOME AND COLONIAL OFFICE WHITEHALL.

THE new Home and Colonial Offices, now nearly completed, from the design of Sir G. Gilbert Scott, and of which we give a view in this number, continue the quadrangle of which the Foreign Offices formed the western portion. The main front, towards Parliament-street, is entirely symmetrical in treatment, consisting of a slightly advanced centre and two wings, with advanced blocks again at the angles, which were intended to be emphasised as towers, by the carrying up of the roofs in a lantern form. These were countermanded we believe, among other things, on a day when the late First Commissioner of Works made a sudden descent upon the architect and his work, and sheared 100,000*l*. worth from the intended outlay on the building. It is understood that these crowning features are, however, now to be carried out. It is to be hoped so, for the east front as it is looks sadly monotonous and heavy in outline. The general style of the Foreign Offices is continued in the new work (the internal quadrangle showing nearly the same design carried round). The ground-floor design consists in its main features of a series of deeply-recessed round arches with highly-decorated piers, a window filling part of each recess, with segmental head following the curve of the large arch. The first-floor story has an "order" of coupled engaged columns its whole height, with circular-arched windows with solid spandrels between, and a single shaft in the centre of the window. The second-floor design is nearly similar, but with single engaged columns, two shafts in the window, and an "attic" light in the arch above. The design is continued in a very similar manner along the Downing-street front, but with plainer treatment; single columns on the first-floor story, and plain piers in the ground-floor. The treatment of the first-floor story, which is repeated almost precisely in the internal court, strikes us as the best and most picturesque portion of the building, which, in regard to general effect, is only as satisfactory as can be expected in a work carried out by an able architect, in a style which he has always deprecated, and with which he has no sympathy. The south front (to Charles-street) is of much simpler and plainer design than the others; the attached "orders" are omitted, and the effect is obtained by the treatment and decoration of the pedimented windows merely. A little more variation in the spacing and grouping of the windows would have enlivened the building more, though perhaps at the loss of the character for stateliness which probably was chiefly aimed at.

If the general design scarcely excites enthusiasm, the detailed ornament goes far to redeem this, and is good in every way, both as regards design and execution. The broad band of flowing acanthus foliage which divides the ground and first-floors has been carefully designed and studied, and is a very rich and refined piece of work. The panels below the ground-floor windows are fitted with coloured marble, grey centre and red side panels, and *vice versâ*, alternately. The figures which were originally intended to crown the balustrade at the top of the principal front have been done away with; the architect, finding that there were not funds at his disposal for figures both above and below, wisely determined to forego the upper one, which could have been but little seen, and to retain those originally proposed in the spandrels of the ground-story arches. These figures, in tolerably high relief, have been executed by Mr. Armstead and Mr. Birnie Philip, who have also divided between them the sculpture on the upper story of the inner quadrangle. The figures to the left of the centre, by Mr. Philip, are allegorical personifications which are not quite as clear in their signification as they might be, though perhaps as much so as such figures generally are. The figure in the centre compartment, which we may interpret, perhaps, as Law or Legislation, is the best, and is very spirited and original in conception and attitude. The figures on the right wing, by Mr. Armstead, represent the *four* quarters of the globe; Europe, a figure launching a ship to sail over the globe (which is represented in a somewhat too material and matter-of-fact manner); Asia, a heavy half-nude figure, seated in a kind of indolent stateliness, and backed by an elephant; Africa, a Hottentot figure further helped out by a hippopotamus; America, indicated by a Choctaw Indian and a bison; and Australia, by a very lively young woman, who looks as if she were about to emulate the leaping powers of the kangaroo




THE NEW COLONIAL AND HOME OFFICES.—*Plan of One Pair Floor.*

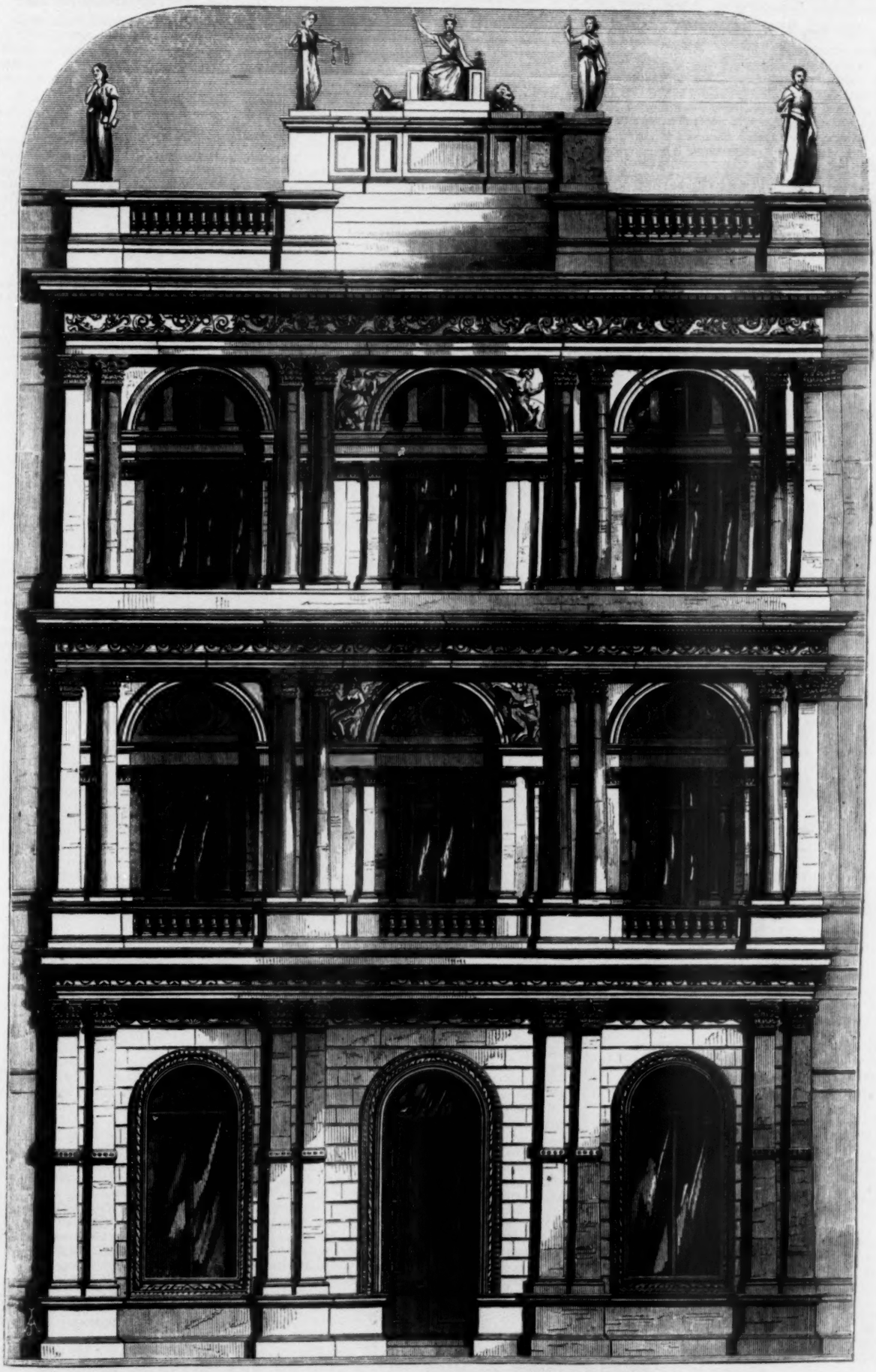
which keeps her company. Asia and Africa strike us as the most successful of these; the former is a figure of considerable character and power. How long these and the delicate carved work will remain intelligible to the eye of the passer-by, is one of those questions which architects and sculptors who have to work in London smoke can only try to put out of mind as much as possible.

The plan of the offices forms, as we have already indicated, one-half of the quadrangle commenced by the Foreign Office; the large court has a fine and spacious effect, and the design of the pavement in two tints of paving-stones, occupying the whole of the ground, gives a certain dignity even to the area of the court itself. Between the great court and Parliament-street are two smaller courts for light, occupying the space behind the wings, the centre and side blocks of the principal front being carried across to join the buildings at the east side of the great court. The entrance-hall and main staircase from Parliament-street form an oblong apartment, the first landing and balustrade of the stair being carried along opposite the entrance, with an open loggia above and below; the ceiling is panelled and ornamented with "centre-flowers" in delicate and low relief. The Colonial Offices have a special entrance from the north-east angle of the central court, where a small hall, the ceiling partially carried by grey Devonshire marble columns, leads to a hexagonal staircase, which runs up the whole height of the building from the ground-floor; and which, with a little judicious decoration and some very light-tinted stained glass in the lantern at the top, would make a very pleasing staircase, as it is practically a very good piece of work. There is a similar stair near the south-east angle of the court. The Colonial Offices occupy the north-east portion on the ground-floor, and the Home Office the rest; but this arrangement, as indicated at least by the colouring of the plans, is reversed on the first and second floors. The finish of the interior is exceedingly plain, and in the corridors and some of the offices we should have said shabby. We are told this is in consequence of the ex-Commissioner's economies above mentioned; and that the architect, not wishing to spoil the outside of the building, which every one would see, took it out of the inside, which only less numerous official eyes would gaze on. In some of the offices the fire-proof arched ceilings are left visible in a very naked kind of way. The wood-work seems very good and solid throughout; the window-frames are of oak, and the doors very satisfactorily and solidly finished; but the floors certainly show no very careful workmanship. Decoration judiciously applied may, no doubt, yet do much to ameliorate the interior, which at present looks cheerless and uninteresting enough.

The whole of the floors are constructed with Dennett's fireproof arch, in some cases under-drawn with a flat ceiling; in others, as we have observed, not so. The floors are all boarded upon the fireproof, except the corridors, which are tiled. The corridors and staircases are heated with hot water, the rooms are all warmed by fires, the grate bearing Captain Galton's name (the Galton stove) being used, which has a warm chamber at the back, through which an inlet from the outer air is provided, so as to avoid cold draughts. No provision for exit ventilation has been made, it being supposed that the height of the rooms, and the absence of anything like crowding in them, would render this unnecessary. The roof-framing is of wood throughout.

The contract was taken for the whole work by Messrs. Jackson & Shaw for 250,000*l.*; the heating apparatus, and the stoves and grates are additional, the former being supplied by Messrs. Rosser & Russell; the Galton stoves by Messrs. Yates, Haywood, & Co.; and the ordinary grates, where used, by Mr. Longden, of Sheffield. The ornamental carving is entirely carried out by Messrs. Farmer & Brindley. In referring to the external decoration, we should have mentioned that the blocks left in the rough over the first-floor windows are intended to be carved into portrait heads of eminent statesmen or officials, but this portion of the work is held over till it is finally decided how the various apartments will be appropriated, so that these portraits may find their right place in relation to the portion of the building which each occupies.

The whole of this work has been under the immediate superintendence of Mr. Sheffield, who has been clerk of works on the site since the Foreign Offices were first commenced.



THE NEW COLONIAL OFFICE, PARLIAMENT STREET: CENTRAL PORTION.

SIR G. GILBERT SCOTT, R.A., ARCHITECT.

## THE WAGNER THEATRE, BAYREUTH.

SOME short time ago we gave a few particulars of this theatre, with a diagram of the orchestra, where the musicians are out of sight. A correspondent of the *Daily News* now sends a fuller account. He says:—

If the outside strikes us oddly with its appearance, which may be likened to a happy union of an ornamental barn and a large shot-tower, the interior surprises us with its innovations, and at the same time with its adaptability for theatrical purposes. The stage is of vast dimensions, and can now be seen in its full proportions. It is sunk a depth of 37 ft., and has a height up to the pulley-floor of 176 ft. It is in breadth 95 ft., by 79 ft. in length, and will have ten side scenes. The further stage, back of this, is 40 ft. long, by 49 ft. broad. The width of the proscenium will be 45 ft.,—the widest, I believe, in Germany. The architect is Herr Runckevitz. On the stage there will be neither footlights nor prompter's box. Wagner intends that his singers shall be firmly seated in the saddle ere they appear before the public. The stage scenery is being painted by the Brothers Brückner, in Coburg, from the designs of Hoffman, in Vienna. The smaller pieces will be finished in Coburg; the larger in Bayreuth, in a large wooden hall erected at the rear of the theatre. The portion of the theatre devoted to the audience is remarkable for its simplicity. The plans were made principally from Wagner's own sketches. There will be no boxes; even the Royal circle at the back will only be elevated a few feet above the level of the last row of seats. Commencing immediately in front of the orchestral space, the rows of seats rise step by step, as they recede "amphitheatrically," the last row being 20 ft. or more higher than the first, but the view of the stage being nowhere obstructed. The form is of an exact segment of a circle, the seats growing in width as they recede: so that, while the first row has a width corresponding with the proscenium (about 50 ft.), the last row and the Royal circle or gallery extend to a width of over 100 ft. The great width of the auditory (114 ft.), and the comparatively small depth (79 ft.) from the orchestra to the Royal Gallery, enables each of the audience to command an almost perfect perspective view of the scenes represented on the stage. The ceiling of this part appears low to us, accustomed as we are to high tiers of boxes crowned with the upper gallery. There will be but one gallery, immediately over the Royal gallery, and this is simply made for the accommodation of the citizens (500) of Bayreuth, some of whom Wagner will invite to see the performances gratis. The sides of the auditory will be rendered slightly ornamental by pillars. But there will be nothing in the entire space to divert the attention of the audience from the stage and the scenes thereon represented. In this simply-constructed auditory there will be seats for 1,500 persons, so that the theatre will hold, including the gallery for the Bayreuthers, about 2,000 persons.

## HEALTH AND GOOD DRAINAGE, SHERBORNE.

SIR,—The town of Sherborne, in Dorsetshire, has a population of betwixt five and six thousand. In the early part of last year, there were several cases of typhoid fever, and in consequence complaints were made that the sewerage was defective.

I was called in to advise the local board on the subject, and on making an inspection of the existing arrangements, I found that the sewers, which were stoneware pipes, had been constructed more than twenty years, and that they were unprovided with means either of inspection, flushing, or ventilation. There was consequently an accumulation of foul deposit in the pipes having bad falls, the gases evolved from which had no means of escape other than into the houses by way of defective connexions to the main sewers. Under my advice the board inserted in the sewers a number of man-holes for inspection, provided at suitable points with sluices by which the deposit could be regularly removed; and in addition simple open ventilators, without charcoal, brought up to the surface of the streets at intervals of 60 or 70 yards.

As might naturally have been expected, when the first few openings were made into the sewers the stench that was emitted was unbearable, and there was a great outcry against them. The work was however persevered with, and the nuisance gradually diminished as the number of openings was increased, until at the present time it is almost impossible to perceive the slightest smell arising from any of the gratings.

In addition to these improvements in the main sewers, I have recommended the severing of all direct communication betwixt the interior of the houses and the sewers by way of the waste pipes, and the ventilation of all soil-pipes.

That these simple alterations have been remarkably efficacious is proved by a return of the medical officer, which has been forwarded to me by the chairman of the board, and which is as follows:—

"*Deaths during the Quarter ending the 31st of March*, 1874.

| | |
|---|---|
| Total number of deaths | 16 |
| Corresponding quarter of 1873 | 40 |
| Average number of deaths for the corresponding quarters of 1870, '71, '72 | 37 |
| Deaths over 60 years of age in 1874 | 9 |
| Deaths under 1 year of age do. | 2 |

Rate not quite 10½ per 1,000 per annum. No death from epidemic or contagious disease.

(Signed) WILLIAM HENRY WILLIAMS, M.D., Lond., Medical Officer of Health, Sherborne.

April 18th, 1874."

The deaths in the March quarter of 1874 are thus only 40 per cent. of what they were in the corresponding quarter of 1873, prior to the ventilation of the sewers.

Possibly the whole improvement cannot be credited to this cause, but it is fair to suppose that a very great proportion of it may be.

JAS. MANSERGH.

## PROPOSED NEW TOWN-HALL FOR MAIDENHEAD.

THE Town Council have called into requisition the services of Mr. Charles Cooper, architect, whose plans have been submitted to the Urban Sanitary Authority, and so far approved of; and permission given to the Town-hall Committee to obtain specifications as to cost, and devise means for raising the necessary funds. The site will be the one of the present town-hall, and the whole of the premises at the back. Where the market is at present held will be enclosed with grass, and considerably enlarged on the side where the present market-room is, and will be used as a corn exchange, club-room, drill-room, lecture-room, and will receive a considerable amount of additional light from the dome of the grand staircase, which opens into it. On the side where the present house is will be a large business-room for farmers. Behind is a corridor running down the centre of the building; and on the side towards Park-street are in succession a waiting-room, library, newspaper and reading room, lavatory, then a cross corridor from Park-street, entrance leading to a staircase to a platform, organ, &c., above. Further on is a place for fire-engines and fire-escape. On the opposite side of the central corridor, commencing from the farmers' business-room is a living-room and kitchen for preparing dinners, next a large club-room or museum, next armoury, police-office, then prison cells. Ascending the grand staircase, we find the present hall divided into a council-chamber and magistrates' room. Behind the council-chamber are the town clerk's office, surveyor's office, and gentlemen's retiring-room. Behind the magistrates' rooms are the magistrates' and ladies' retiring-rooms. Then comes the large hall, 73 ft. by 40 ft., capable of holding 1,000 people, and approached by a wide staircase, covered and lighted by a glass dome. This hall has a gallery at one end, and at the other a raised platform, with staircase from it, for performers, to rooms below, and a recess for an organ. On either side of this platform are gentlemen's and ladies' retiring-rooms. There are two ornamental towers, both containing water in case of fire,—the one in front being arranged for a clock with four faces, and room for a set of chimes, and ornamented with the borough arms, and on each side a balcony for electioneering purposes. It projects some 6 ft. on to the pavement. The other tower is the entrance in Park-street.

**New Clock and Bells at Bishops Itchington, Leamington.**—A new clock and peal of five bells have recently been erected in the newly-built parish church here. Mr. Smith, Midland Clock Manufactory, Derby, made the clock. The bells include a tenor, about 11 cwt., and are from the foundry of Messrs. Taylor & Co., of Loughborough.

## THE CIVIL SURVEYORS EMPLOYED ON THE ORDNANCE SURVEY.

FOR some time past a rather numerous body of civilians have been employed on the Ordnance Survey, and are designated "assistants," for the reason that the survey is nominally carried out by the Royal Engineers. The work requires a special education and a high degree of skill. Some of the assistants are surveyors, others draughtsmen, and others engravers.

The gentlemen referred to are immeasurably at a disadvantage when compared with the civil servants of any other Government department.

In 1872, according to an official return, fully one-half of the total number had less than 4s. a day, and scarcely a twentieth part of them had as much as 8s.

The civil assistants ask "Is it right or reasonable that we should be employed on the Ordnance Survey and treated differently from all others employed in the civil service of the State, and be so poorly remunerated for our work?" They have now laid their case in the shape of a memorial to the Chief Commissioner of Works, Lord Henry Lennox (to whose department the survey has belonged since the abolition of the Board of Ordnance), for a redress of their grievances, pointing out in a clear and temperate way what the grievances are, and how they might be removed. They should be listened to.

## M. DE CAUMONT.

IT is proposed to raise a monument to the memory of the distinguished architectural antiquary, De Caumont, in Bayeux, the place of his birth, and M. l'Abbé Le Petit, of Tilly-sur-Sulles (Calvados), the secretary of the Société Française d'Archéologie, which was founded by De Caumont, will receive any subscriptions for that purpose that may be sent him. Half a life has passed since the conductor of this journal, walking over Normandy with note-book in pocket and sketch-book in hand, met with M. de Caumont, even then widely known, at home and abroad, by his works on the study of architectural antiquities. From that time to the date of his death he devoted his life to the same object. Like Rickman and Britton in this country, he was the pioneer in France, and, moreover, kept well up with the times. It is right that his name should be held up to honour in his native place, and we sincerely wish success to the endeavour which is being made in that direction.

## FROM SCOTLAND.

*Dumfries.*—An application has been made to the Board of Trade to sanction the erection of a suspension bridge over the Nith at the dock-head of Dumfries. The plans of the bridge have already been adopted by the Town Council, and approved by the Nith Navigation Commissioners, and as the necessary funds (between 1,400*l.* and 1,500*l.*) have been subscribed, the erection of the bridge will be proceeded with as soon as the Board of Trade give their sanction. From pier to pier the span will measure 205 ft.; there will be a roadway of 8 ft. wide, the height of the platform above low-mater mark being 21 ft.; and the piers will be connected by ornamental arch and cast-iron work, and from the roadway to the finial they will rise to a height of 35 ft.

## OLD MANSIONS AND NEW SHOPS.

SIR,—How instructive would be two elevations side by side of the "Mansion House" at Hackney and the three parapeted boxes, hung in the air at about a height of 10 ft. from the ground, which are to replace it. The contrast between the fine fluted brick pilasters, jambs, and projecting panels, and the empty spaces garnished with bonnets and laces, cheeses and plum-boxes, poultry and lobsters, would help to remind us that we can not only build, and even veneer, cathedrals much better than our benighted great-grandfathers, but can also sacrifice the appearance of solidity and comfort in our dwellings to the manifestly greater advantage of being able to exhibit our entire stock-in-trade to the gaze of every passer by.

Such lessons have a melancholy interest for many who, like your obedient servant, are quite resigned to the exigencies of the present, but must indulge in an occasional growl as

LAUDATORES TEMPORIS ACTI.

## SCHOOL BUILDING NEWS.

*Abbot's Bromley.*—St. Anne's School for Girls at Abbot's Bromley has been opened. It is the first of a series of girls' schools which it is in contemplation to found under the direction of the Provost and Fellows of St. John's College, of Lichfield, and in alliance with St. Nicolas College. Provost Lowe proposes to found and secure to the Church of England seven schools, for not more than 100 girls each, at varying charges, and in different localities throughout the Midland counties. While these schools will practically be worked by the ladies who reside in them, the Society of St. John, of Lichfield, will render them its support as a council, regulate the main features of the system of education, and especially guard the institutions as belonging distinctively to the Church of England. The first of these girls' schools, which has been opened, when completed, will accommodate 100 pupils.

*Bristol.*—To aid the building fund of the Newport, St. Woollos, and Tredegar Wharf Elementary Schools, which have been built to supply the deficiency of school accommodation for this town and district, as required by the Educational Department of the Government, a bazaar has been held. The schools were undertaken, with the sanction and pecuniary assistance of the Government, by a number of gentlemen and tradesmen connected with the port, and are to be supported by voluntary contributions and fees received from children attending. The cost of these buildings, including land, was 6,000*l.*, and there remains a liability of 1,750*l.* upon the building committee. The schools are built with stone.

*Crofton.*—A school is to be erected at Crofton, near Fareham, Hants, for accommodation of 160 children. Mr. Thos. Goodchild, Adelphi, architect. The tender of Mr. George Barnes, Portsea, 932*l.*, has been accepted.

*York.*—Tenders have been sought for the construction of new schools in connexion with the Roman Catholic Church of St. Wilfrid, in this city. The site selected for the schools is between Monkgate and Groves-lane, to the latter of which thoroughfare there will be a frontage. The general accommodation of the building will be for 300 children, who, by the architectural character of the structure, will be divided into three sections. One section will be for infants, the Groves front part of the building, which will be on the ground floor, being devoted to a large infant school-room and smaller class-room. By a division down the centre of the remaining part of the building, school-rooms and class-rooms will be given for upper boys and a mixed school. Outside the schools there will be ample playground accommodation, that for the girls being in the infant-school yard, and that of the other departments in separate yards. The entrance for the infants and girls will be by way of Groves-lane, and that of the boys in the upper and mixed school by separate ways from Monkgate. The architects for the erection of the building are Messrs. Goldie, of London.

*Rainford, Lancashire.*—The foundation-stone of a new Roman Catholic school, the first the township has had for over a century, has been laid. The land was purchased, and the school is being built by the Rev. Father Powell, of Birchley, who proposes shortly commencing a chapel also. Mr. Edmund Kirby, of Liverpool, is the architect, and Mr. Middlehurst, of Rainford, the builder.

*Evesham.*—Mr. A. Espley, architect, has reported that it will be necessary to entirely rebuild the grammar school and master's residence; and the trustees have issued an appeal for subscriptions to carry out the work. About 700*l.* are available from endowments, but as the contemplated works will absorb 1,300*l.*, about 600*l.* more will be required from private subscribers. It is hoped that a good residence attached to the school would induce a first-class master to accept the management, and that thus an efficient middle-class school would be established for the district.

*Mepal.*—The new National School-room erected by voluntary contributions, from plans prepared by Mr. R. R. Rowe, C.E., of Cambridge, architect, has been opened by the Rev. Canon Hopkins, B.D., Vicar of Littleport, and Rural Dean.

*Halifax.*—Some months ago the friends connected with Hanover-street New Connexion Chapel, in this town, purchased a plot of ground on which they propose to erect a new Sunday-school. It is proposed that the front houses shall remain, but the rest of the site is to be covered with the new school buildings. The contracts are already let. There was a good deal of competition, and the tenders of the following were accepted:—Mason, &c., Mr. Michael Firth; joiner, Mr. Anthony Sutcliffe; slaters and plasterers, Messrs. Crowther & Gledhill; plumber and glazier, Mr. John Naylor; painter, Mr. Joseph Dell. The total amount of their contracts is 3,375*l.*, which is inclusive of lighting, heating, and ventilation. The architect is Mr. H. J. Paull, of Manchester and London. The Albion School at Ashton-under-Lyne was designed by this gentleman. He also executed those belonging to the Congregationalists at Great Horton; the Hope School, in Salford, &c. The new building will occupy a prominent position in the town. The end elevation, or principal front, will face Bond-street, where the chief central entrance is to be. Above this entrance a square turret or campanile tower has been contemplated, and is shown upon the architect's drawings to rise about 33 ft. higher than the cornice of the main roof. It would serve as an extraction shaft for ventilation. The style of the structure is a free treatment of North Italian work, adapted to the materials, which are pitch-faced wall-stones and hewn stone dressings. The elevations are simple and without ornamentation. The height to the apex of the gable or pediment in the Bond-street front will be 50 ft., and 32 ft. to the eaves cornice. The site is irregular in form and on the surface, and has necessitated special arrangements and construction to adapt the building to it. The accommodation to be provided is as follows, viz., a large school or assembly room, 72 ft. long and 36 ft. wide, within the walls, exclusive of an organ recess, 16 ft. by 12 ft., and a transept, 23 ft. by 13 ft. The height from floor to wall-plate is 22 ft., and to centre portion of the ceiling 27 ft. At one end (next to Bond-street) will be a gallery five seats deep, having an enclosed library and a class-room underneath it. Windows will be on either side of the room and at the front end, the latter being a "wheel" window. The capacity of the assembly-room for a seated audience of adults, exclusive of the organ or speaker's platform, is for upwards of 650. Communicating with the room are six rooms of various sizes for classes, &c., and underneath, on the ground-floor story are class-rooms, an infants' class-room with rising gallery, to accommodate 100, and a lecture-room, 35 ft. by 24 ft. and 15 ft. high. From the Bond-street entrance a central corridor runs through to the other end, having the class-room doors on either hand.

*Eye.*—The grammar-school having become dilapidated, and being ill-adapted for its purposes, plans for restoring the house and erecting suitable school-rooms, were prepared by Mr. Colling (the architect, who carried out the restoration of the parish church), and tenders were invited from builders resident in Eye. At a meeting of the trustees these were found to be as follow, viz.:—

| | Restoration of House. | School Buildings. |
|---|---|---|
| Penning | £325 0 0 | £600 0 0 |
| Rampling | 310 0 0 | 561 0 0 |
| Vine & Day | 284 0 0 | 515 0 0 |

Messrs. Vine & Day's tender of 515*l.* for the erection of the school-buildings was accepted. The trustees did not go into the question of the tenders for the restoration of the house, in consequence of Lady Caroline Kerrison having kindly intimated that she would carry out that portion of the intended works at her own cost. To meet the expense of erecting the necessary school-buildings a subscription-list has been opened. The house, when restored, will afford accommodation for receiving boarders.

*Wittersham.*—The foundation-stone of the new schools for the parish of Wittersham has been laid. The schools will provide accommodation for 120 boys and girls and 53 infants, and the cost, together with the teacher's residence (including the cartage, which, however, has been undertaken by the farmers) amounts to 1,621*l.* The committee has only signed the contract for the schools at the present time, intending, as soon as they have received further subscriptions, to go on with the teacher's residence. The architect is Mr. A. A. G. Colpoys, of St. Leonards-on-Sea, and the builder is Mr. James Holt, of Stone.

*Ilkeston.*—The Duke of Rutland has given sites for four schools in the parish of Ilkeston, one being on the cricket-ground, another on the common, another at Cotmanhay, and the fourth at Little Hallam. Mr. A. M. Mundy of Shipley Hall, is to build a school on the Cotmanhay site, and Mr. G. Crompton, of Stanton Hall, one on the Little Hallam site, both at their own cost. The cricket-ground and the common schools are to be built by subscription, at a cost exceeding 3,000*l.* The existing boys' school, at the top of the market-place, is to be taken down. The Duke of Rutland is to give 800*l.* for the girls' school, with the object of converting it into a market-hall.

## OPENING OF THE BLACKBURN FREE LIBRARY AND EXHIBITION.

THE formal inauguration of the Blackburn Free Library and Exhibition took place on Thursday in last week, when the building was declared open by the Mayor of Blackburn. The edifice is in the early style of Decorated Gothic. The principal front abuts on Frances-street, the chief entrance being a recessed arch, over which are the arms of the borough surmounted by three sculptured panels representing Literature, Science, and Art. Other similar panels will at some future time be placed in the wall facing Richmond-terrace. On the ground-floor of the principal frontage are four pointed recessed windows, two being on each side of the central doorway, while above are four recessed mullioned windows with carved heads. The architectural details on the Richmond-terrace side of the building are similar to those mentioned. A cornice extends along the top of the walls, and the roof is relieved by gables. Bradford and Longridge stone are the chief materials of the building, and those portions of the walls that are sculptured were procured from Warwick. A vestibule leads to the upper rooms, which are to be devoted to the purposes of a museum and picture-gallery. On the left of the vestibule is the entrance to the Reference, and on the right to that of the Lending department and students' rooms, of which there are three. Space will be provided for 60,000 volumes, and 100 persons at a time will have seats. The cost of erection will be about 7,000*l.*, and it is expected that to furnish the building a further amount of 1,000*l.* will be required. The builders were Messrs. Denton & Marshall, of Blackburn; and the sculptured panels, &c., were executed by Mr. Seale, of London. Additional interest was given to the proceedings by the opening, in the rooms, of the library and museum of an exhibition of art treasures, antiquities, curiosities, industrial products and processes, and specimens of natural history.

## IMPORTANT DECISION UNDER THE MASTER AND SERVANT ACT.

CAUTION TO ARTIZANS BREAKING CONTRACTS.

AN ironworker, named Cutler, in 1871, entered into a five years' contract with Messrs. Hague & Turner, iron construction builders, of Sheffield, to work on "piece." The contract was duly drawn up, and signed; but in February, 1873, a general demand arose amongst all artizans for an increase of wages, and Mr. Cutler, despite his contract, also asked for an advance of 20 per cent., and further, sent in a notice, that unless he got the extra 4*s.* in the pound he should cease work. Messrs. Hague & Turner refused to give the increase, and called Cutler's attention to the five years' agreement, and the only notice he took of his contract was leaving off work at the time his notice stated. Upon this Messrs. Hague summoned Cutler before the Sheffield Police Court, and as the workman (stated to be an excellent and valuable hand) refused to return to the job, or make compensation, the magistrate sentenced him to three months' imprisonment under the Master and Servant Act.

Cutler, on being liberated, still refused to return to his employ, not only through his own feelings, but on the advice of others, who urged that the imprisonment was a bar to further prosecution, and the contract had been put an end to. The employers, to try this novel way of ending a contract, again cited Cutler to the Police Court, and the Justices ordered him to find sureties to complete his contract, failing which, to be imprisoned until he did.

Cutler now appealed against the second conviction of the Sheffield magistrate, and Mr. Hopwood, M.P., his counsel, contended that the convictions were a bar to any further penalties, and that *de facto* and *de jure* the contract was now void.

The Judges, Blackburn, Mellor, and Quain, were unanimously of opinion, that though Cutler had been imprisoned three months for nonpayment of compensation to his employer for being absent from work, it did not operate as a bar to the employer again summoning him to fulfil his contract. That having been carried out, the court below were quite right in again convicting, and could go on doing so, as the Act gave magistrates power to order further imprisonments, but each conviction was not to exceed three calendar months.

The appeal must, therefore, be dismissed, and Cutler, the appellant, again go to prison.

**Assyrian Remains.**—Mr. George Smith, who has returned from his second Assyrian expedition, has brought home a great many very interesting objects of Assyrian art, including the entire lintel, in sculptured stone, of one of the ancient palace-gateways.

## THE POSITION OF THE ARCHITECTURAL PROFESSION.*

THIS General Conference of Architects, which I hope we may now regard as an established institution of our profession, is based upon a principle so simple and so purely practical that one may almost say there is no reason that need be assigned for our assembling thus, except that thus we have assembled. Whatever varieties of opinion may happen to appear amongst us upon points of practice, or questions of duty; whatever scholastic prejudices may divide our sympathies in matters of taste; whatever merits, or comparative demerits, may constitute distinctions amongst us in respect of scientific skill or academical knowledge,—of this, at least, there can be no doubt, that we are all of one order in being working architects, and that, whether more learned or less, more artistic or less, more experienced or less, more modern or more antique, more metropolitan or more provincial, if we can now and then be brought together from all quarters as the working architects of the three kingdoms, there cannot fail to be something or other of vital interest to us all, upon which a useful light may be thrown by the easy and delightful process of brotherly communion. Let me therefore take it that I am addressing a partnership council of practical men of business, and I am content. If many of us are unknown to each other, all, I am sure, are inspired for the occasion by one impulse of mutual loyalty; the little prejudices of locality are overlooked; the inevitable jealousies of individuality are forgotten; and it is love, after all, that makes the world go round. I cannot help thinking that the position of the architectural profession just now, at least at head-quarters, is somewhat paradoxical. One day we are lauded to the skies for successes; the next we are denounced, as no other similar class of men appear to have ever been denounced before, for what are declared to be most signal failures. We may at once acknowledge to ourselves that it is chiefly in art that we are supposed to succeed, and in practice to fail. What our promised lecturer, Mr. Stevenson, may have to tell us about the recent reaction of taste in our style of design I do not know; and what may be the destiny of the coming mode,—for modes must come and modes must go, while art runs on for ever,—perhaps not even he may venture to predict; but if we look back on the last five-and-twenty, or perhaps five-and-thirty, years, as impartial observers of earnest artistic endeavour, we can have no hesitation in coming to the conclusion that the career of modern Gothic architecture in England, come to an end when it may, will continue for ages to be regarded as one of the most remarkable episodes in the artistic history of the world. Even those whose prejudices of taste, however, have never permitted them to engage in the work of this revival must acknowledge with patriotic gladness its transcendent merits; and here we have enough, if we had actually nothing more, wherewith to justify the assertion, that British architecture is in a condition of brilliant success. But I have hinted also at what it would be in no way judicious for us to ignore,—that in another sense our profession, if not our art, is in a condition of supposed failure. By some process of reasoning, which is not quite so clear to ourselves as to the more facile intelligence of sanitary reformers and hasty journalists, it has come to be received as a doctrine that the work of the British architect does not consist in the designing of glorious churches and grandiose palaces, but in the construction of chimneys that never cease to smoke, the laying-in of drains that only breed perennial sickness, and the putting up of certain sanitary apparatus that poisons the very princes of the blood. Is there an old cesspool discovered where, according to our more modern lights, no cesspool should be? Then, says a medical journal, "why should we not have it in our power to arrest the architect and have him tried for culpable homicide?" Does some unwelcome odour arise in a terrace of gaudy speculation houses at the West End? Thus speaks a popular newspaper: "The man who cuts his neighbour's throat runs a good chance of being hanged. The man who murders him by secondary causes is neither condemned nor suspected. . . . . The ordinary architect is one of these murderers, and we question whether we shall get rid of his bad breed until one of them has been hanged" (!) I am therefore quite right in stating that, with all our acknowledged merits on the one hand, we are just now in a good many people's bad books on another. One of our coming lectures, as I have already hinted, will no doubt bring the question of our artistic merits under discussion, but whether that of our alleged scientific demerits will also be taken up, I cannot tell. If, however, any one should feel disposed to deal with it, I am sure we shall be glad to hear what he has to say, even if it should be no more than this—that if the average "ordinary architect" of the present meeting could have that control over people's drains in reality which he possesses in the imagination of his critics, he would very soon prove himself to understand, even about the subject of drains, a great deal more than all the sanitarians and doctors and clever journalists combined could undertake to teach him. Indeed, I may venture to say this, once for all, there may be any amount of diversity of judgment amongst those who understand the work of an architect as to one question and another of his artistic design; but there can be only one opinion as to the utter folly of those reproaches which it is so much the fashion just now to bestow upon him for his supposed ignorance of that common building knowledge which is but his alphabet. Nevertheless, it is again a very noticeable circumstance that what I will call the business of the architect is being seriously interfered with as a matter of business, both in art and in science. As regards science, you will at once divine that I refer to the encroachments (if I may use the word without offence) of the profession of engineers. It is not very long ago that the architect of high standing could successfully compete with the engineer of high standing in such works, for example, as the design of important bridges, while the engineer made no attempt whatever to deal with architectural edifices of any description. Nowadays, however, the design of bridges, and of all structures of the kind, lies wholly beyond the architect's province, and, at the same time, not only does the civil engineer take undisguised possession of the design of such an edifice as a railway station in so far as regards the construction of an enormous roof, but he does not scruple to affect occasionally to be the art designer of its façade also, and the plan designer of all the wayside buildings along the line. Nor is this the worst of it, for the time seems to be approaching when such an edifice as a Covent Garden Theatre, or an Albert Hall, or an Exhibition building, or even a picture gallery, will be considered a work of higher scientific ambition than the architect can reach, and will therefore be handed over to the engineer, or perhaps even to the engineering contractor,—the engineer to call in an architectural draughtsman when he wants him, to be dismissed when he has done with him,—or the contractor to employ both engineer and architect as part of his contract, each to do his part as a subordinate in trade. But neither is this all that is being done to the prejudice of architects' scientific pretensions. Even in ordinary dwelling-houses, and much more in public buildings of any exceptional importance, it is coming to be the practice to call in supplementary professors of specific ingenuity, calling themselves by the ambitious title of mechanical engineers, without whose independent guidance it is thought that stoves and smoke-flues, hot-water apparatus, ventilation, drainage, and whatever else may be in question, cannot possibly go right. If iron construction is to be employed, some one else than the architect must be the designer. Concrete must have its own specialist; and, indeed, there are a score or two of the most ordinary contrivances, in both materials and appliances, which it is fully understood can only be adopted with success under the personal superintendence of those who are learned in them. Turning now to art, the encroachments, not only of anxious friends and patrons, but of subsidiary professors, are almost still more numerous to catalogue and more serious to contemplate. It is not merely that the decorative artist must be called in by name for anything beyond common graining and paperhanging, but in the case of pavements, parquetry, ornamental ironwork, coloured glass, carving, modelling, and various other such supplementaries of architectural effect, the design has to be more or less authoritatively advised upon, if not absolutely dictated, by so many specialists in business, many of whom, moreover, having ceased to be good servants, have become very bad masters. The architect therefore is at this moment undergoing a process of singular insidious despoliation, and I am sure you will not pronounce me to be a mere visionary alarmist when I ask a conference of architects to look seriously at the inquiry how far this double invasion is to be allowed to proceed before it is thought desirable to adopt measures for the preservation of a time-honoured profession. For if on the one hand engineering is to absorb more and more of our scientific construction, and on the other the specialists of decorative design are to acquire increasing recognition as independent authorities in art, what, let me ask, is to be left for the architect to do, beyond that which the builder and the builder's clerk can perform just as well without him? But do not by any means suppose that I hold the architects of this country to be becoming deteriorated as regards knowledge. Far from this, I believe it to be the fact that the average skill of an architect of good standing at the present day is very much in advance of that of his predecessor of half a century ago, and this not only in art, but in science. If, however, it is nothing more than the progress of the times that places him at a disadvantage, this of itself is enough. Fifty years ago the student of architecture was satisfied to know the contents of a few grand and learned books which depicted and described the remains of Greek and Roman architecture, and to understand from certain other volumes which are now almost forgotten, or perhaps from nothing but office practice (some gentlemen even went to the workshop to acquire it), the science of such matters, at the utmost, as stone-vaulting and timber-trussing. When a church was to be built, it was a solid Classic temple, with a steeple without and galleries within; and the designer could scarcely go wrong if he would but keep his eye upon the authorities, and use plenty of material. When a country mansion was in question, all that was required was to ransack the "Vitruvius Britannicus," and attempt some novel combination, whether in plan or elevation, of the abundant materials therein supplied to his hand. When a grand row of residences had to be designed, the imposing terraces of the Regent's Park became the *ne plus ultra* of dignified art; and if the internal arrangements of the dwelling, and the appearance of the back elevation, were alike left to chance, it was because such unimportant matters had no precedents in the books. Parker's patent Roman cement, painted in four good oils, and jointed, supplied an admirable equivalent for stone, and the Five Orders an equally admirable substitute for brains. If an experiment were ventured upon in the use of iron, a cast column of no particular size, or a cast beam of no particular section, was confidingly disposed of in no particular way, being "safe to carry anything." If the luxury of a certain little cabinet indoors were indulged in, it was conveniently placed in the midst of the house, and carefully ventilated into the principal staircase by means of an ornamental sash, of oval form, hung on pivots in a conspicuous position. If a chimney smoked it was the will of the elements, and what could not be cured was cheerfully endured. The drains,—Oh, ye gods of sanitation!—what can one say of the drains? And yet in those old times churches were built in peace and consecrated in joy, and pronounced a glory to the country and the age; their spires rivalled those of Sir Christopher Wren, and their galleries afforded from every sitting an uninterrupted view of the pulpit, the reading-desk, and the altar; the voice of the preacher was heard in the remotest corners; the lighting of the interior was all that could be desired, and the substantiality of the structure was only equalled by the comfort of the pews. Costly mansions, also, were built of dressed stone, and streets of town houses were added to streets, with best malm facings and dressings of painted compo; and the eyes that admired the garniture of the front forbore to look at the nakedness of the back, and the plan of the interior was accepted without a murmur, as in the mysterious decrees of fate it might turn out to be; and the chimneys smoked at their pleasure, and the drains smelt at theirs, and the ornamental oval in the grand staircase was politely ignored; and the only wonder is, if the doctrines of this latter day are to be trusted, that the whole of the genteel population of the land had not been driven to desperation by the combined horrors of the architect's art and the architect's science. Nevertheless, it was never proposed in those times to hang an architect. Perhaps it was because architects were so few; for, indeed, there were but a dozen or two of the name in the whole United Kingdom. I say again, therefore, I do not wish it to

* By Professor Kerr: as elsewhere alluded to.

be supposed that I take the condition of architectural skill to be on the decline. Where there was one architect of fair pretensions half a century ago, there are at this moment literally twenty at the very least; and I need scarcely argue that very few of the twenty would be content to carry on now, I will not say the old system, but I will say anything equivalent to it, and to claim credit for so doing. All over the land the architects of the new school have built beautiful and fascinating churches, and have carried into effect learned and genial restorations; even the meeting-houses of the free communions not unfrequently rival in almost every ecclesiastical grace, so far as their traditions admit, the charming edifices of the Establishment; and parish schools and pleasant parsonages are equally dotted over every county, all bearing the impress of the same untiring efforts of professional design. Mansions that are almost as carefully contrived as a piece of mechanism, and as characteristically designed as modern art can make them, have risen up on a thousand sunny slopes, until the country homes of England and Scotland and Ireland alike have become the envy of all the world. Grand municipal buildings now command the streets and market-places of a hundred wealthy towns, to the admiration of every one who intelligently regards them. All the natural graces of truthful material, of articulated construction, of expressive form, are developed with infinite earnestness, and a thousand experiments in picturesque and elegant effects are elaborated with an enthusiasm and self-denial which have long ignored the considerations of five per cent. The study of lighting, of warming, of ventilation, of sanitation, and of still other points of the kind, has become a group of architectural sciences. The employment of iron construction—the absolute perfection of scientific building—has become matter for the most recondite calculations; and even in the economising of such every-day substances as brick and timber, the formulæ of mathematics and the tabulated results of experiments are in constant use. Every appliance within and without the walls is made a subject of special consideration; every shortcoming in whatever respect has been brought under the category of an accident rather than an oversight; every little question of convenience and comfort is studied, and every item of outlay considerately weighed; and it is not too much to say that if our professional operations as a whole are second in respect of complication, of design, and of painstaking execution to anything within the entire range of constructive contrivance, it can only be to those organised productions of the mechanician which transcend all other works of ingenuity, because in them nature enables the creative powers of man to aspire to a humble imitation of her own. Once more, then, let me repeat that in such circumstances it is not to be suggested that the architect of the present day is losing ground as compared with his predecessor of the last generation. But this is not enough. Regard for a moment the marvellous advance of the age in every form of science. Remember that, in the rapid progress of such a time, he who fails to increase his pace as others do must appear to be retrograding. The fifty years ago of which I have been speaking seem to be but yesterday in the history of our modern England; and yet this was the old, old time before the railways! I remember meeting, in a Paris hotel, a few years ago, an ancient, broken-down man, who had gone over from London with a memorial to the Emperor. His name, he said, was Cort. Possibly some of you may not recognise the name; I for one knew nothing of it when the old gentleman spoke of it, as he did, boastingly. He was the son of Henry Cort, the inventor of rolled iron. And this was the substance of his memorial: he had reckoned up, in due arithmetical form, and in money, the value of his father's invention to the human race. His father had been ruined by it, of course,—had died of it at last, dreaming, perhaps, of the self-same figures in prospect,—millions of millions, by which his son should one day prove, in retrospect, and soberly enough, the infinite material worth of his invention. And it could not be disputed, and it cannot be disputed, that the mere rolling of iron has been very much the sole basis of all that we boast of under the name of the engineering wonders of the nineteenth century. Now let me suggest that it is this selfsame incredible advance of engineering work in rolled iron that has produced of itself the entire change, even in our own professional world, that we are now contemplating. Let any ordinary architect endeavour to imagine what he would think of himself if he had designed and carried into execution the roof of St. Pancras Station, or the Britannia Bridge, or the *Great Eastern* steamship. How he would look down upon this meeting! Accustomed to the contemplation of such transcendent achievements of physical power as these, how can the engineer be blamed for regarding his cousin the architect as being scientifically but a poor relation? A dainty and accomplished cousin he may be, but one whose mental muscles are not strung like his own; a cousin of ancient and honourable lineage, but of a manifestly inferior kind of vigour; a gentleman of the highest respectability, no doubt, and most estimable character, but, beside the towering Titan himself, unmistakably behind the age. This contrast between the architect and the engineer is not, I beg you to believe, either wiredrawn or fantastic; I have put it before you as I have in order that I may ask you without further circumlocution whether it is to be wondered at that the engineer should begin to show signs, not only of dispensing with the architect for himself, but of encouraging the impression which the public are with less reason liable to form, that they may dispense with him too. Thus it is, as I think, that the architectural profession by name is not unlikely to find the engineering profession by name, within the next twenty years, trenching more and more upon the field of building. As regards encroachments upon the architect's province in matters of art, I must plead want of time as my excuse for leaving the case in your hands without going into further particulars. But this question at least I must consider for a moment upon the whole issue,—what ought to be done for the credit of the architectural profession? In both art and science, then, the mere versatility of such Admirable Crichtons is seldom if ever of any substantial service to the cause; but I see no reason why we should not make it a special point of policy, and indeed, of honour, so to encourage in various individuals their several gifts, that the guild, as a whole, shall be able to claim a supremacy of actual practical power over all possible engineers on the one hand, and all possible decorative artists on the other, and this within the extremest limits of architectural building, from the composition of a painted window, to the construction of the Vienna dome, and from the ventilating of the Houses of Parliament to the devising of a stench-trap or a register-stove. But, perhaps, I am now going beyond the proper scope of my present undertaking. I have accustomed myself to the idea that our Conference ought scarcely to be an occasion for action so much as for discussion. Its organisation is obviously unequal to the task of government, or even to that of the dictation of specific reforms; its meetings can be made of much more service practically, perhaps, by being led to confine their attention almost to speculation and suggestion, leaving the duties of actual administration for the future action of the several associations at our command. I hope, however, I have at least succeeded thus far in accomplishing that which probably is the most useful of all purposes for the occasion, namely, the assertion of a basis of genial fraternal feeling, and the provocation of an impulse to meet questions of the moment, whatever they may be, in some such manner as may accord with our pretensions, however humble, to be the representatives of an illustrious order of men, whose traditions, whether in art or in science, connect the practical efforts of the present with the practical achievements of the past, through an unbroken history of three thousand years.

## THE APPOINTMENT OF ARCHITECT FOR THE NEW INFIRMARY FOR LAMBETH.

WE have already stated that the Lambeth Guardians have decided to erect a new infirmary at an outlay of 30,000*l.*; and at the meeting of the Guardians last week a lengthened and animated discussion took place on the question of appointing an architect to furnish designs for the new building. The discussion involved the appointment of a selected architect on the one hand, as against the principle of advertising and competition on the other. Mr. Taylor, in moving the appointment of an architect, whom he subsequently named, said he was opposed to advertising, because it would cause a delay of some months, and also because they might have plans which were really the work of other persons than those from whom they might be represented to emanate. If they advertised they would have to give premiums, and if they went to that expense they must then employ some eminent architect to select from the designs sent in the best for the purpose. But they had the power of doing away with all that by at once appointing an architect. Then came the question as to whom that architect should be. He had nothing to say with reference to the two gentlemen who had sent in applications, but the gentleman whose name he would propose to them took the first prize of 150 guineas for an asylum at Hampstead, although his design was not carried out. That was one reason why he proposed Mr. Francis Haymen Fowler, and the next reason was because of the services he had rendered the parish for a number of years, both in the vestry and at the Metropolitan Board of Works. He moved that Mr. F. H. Fowler be requested to furnish a design, upon the understanding that if the guardians did not approve of the design they should not be bound to carry it into execution, but only to pay Mr. Fowler for his services in preparing it. Several guardians supported the proposal. It was, however, opposed by other members as being unfair to outside architects. Mr. Stiff moved as an amendment that six architects be selected, including the name of Mr. Fowler. The amendment was ultimately lost by 12 to 7, and Mr. Taylor's motion appointing Mr. Fowler the architect to furnish the design, was carried.

## A PROPOSED BRISTOL COLLEGE OF SCIENCE AND LITERATURE.

A PUBLIC meeting in aid of this object has been held in the Victoria Rooms, Bristol. We understand that the amount required for the undertaking will be 25,000*l.* capital, and a guaranteed fund of 3,000*l.* a year for five years for maintenance. The Mayor of Bristol presided over a very large and influential attendance. A committee's statement was read at the meeting by the Dean of Bristol, in which it is said,—

"The committee is of opinion that the College would require at the outset some such staff as the following:—One professor of mathematics; one professor of chemistry; one professor of engineering, who would be responsible for descriptive geometry and its applications, mechanical philosophy and mechanism; one professor of mining, who would be responsible for geology, mineralogy, the art of mining and surveying; one professor of Greek and Latin language, literature, and history; one professor of English language, literature, and history; the professors connected with the medical faculty; a registrar or secretary.

In order to establish the college on a permanent basis, it is obvious that the sum of money which is asked for is in no way excessive.

First of all, it will be necessary to provide suitable buildings and appliances."

The meeting was addressed by Professor Wilkinson, President of the British Association; Professor Jowett, the Master of Balliol; the Bishop of Exeter; Mr. Hodgson, M.P.; Mr. Morley, M.P.; and other influential gentlemen; and appropriate resolutions were unanimously passed, the chief being,—

"That in order to meet the requirements of the West of England and South Wales, it is desirable to establish in Bristol a college which shall provide, for those who wish to pursue their studies beyond the ordinary school age, advanced instruction in the sciences applicable to the industries of the district, and in such other subjects as form the staple of a university education."

## SANITARY ENGINEERING.

SIR,—Usually I pay but little attention to the communications of anonymous writers, but when a journal of standing like the *Builder* inserts an anonymous communication reflecting upon the honour of a professional man it becomes expedient to take cognizance of it.

Your correspondent "An Engineer," in speaking of my recent work "Sanitary Engineering," and of the plan of the drainage of Dantzic, states that "many persons think it is the design of Mr. B. Latham, although the name of E. Wiebe is on the plan with that of Mr. Latham." "The sewerage of Dantzic is, however, both in plan and execution the work of the eminent Prussian engineer, E. Wiebe." A project for the drainage of Dantzic was prepared in 1865 by Mr. E. Wiebe, which was the basis of the project commenced in 1869, but the project of 1869 is not identical with that of 1865, as may be seen by comparing the plan and details given in "Sanitary Engineering," with the plan and details of the project of 1865, a copy of which is to be found in the library of the Institution of Civil Engineers. In the works as carried out, the direction, level, sizes, and

details of the sewers are altered, while the pumping-station and outfall-works were completely re-designed. Moreover, the suburbs are included in the project as carried out, but they were omitted in the project of 1865. Every plan, section, and detail drawing of the Dantzic works, with the exception of the architectural drawings of the engine-house, chimney-shaft, and residences at the outfall were prepared by myself at my office in Westminster; and every plan so prepared bears the joint signatures of Mr. Wiebe and myself. I have always thought and still think that the greatest possible honour is due to Mr. Wiebe for the care and skill exercised by him in the preparation of the original project for the drainage of Dantzic. The following extract, taken from a report to the Stadt Magistrate of Dantzic in 1869 then expressed, and still expresses, my views upon that project:—

"You have before you the scheme of sewerage that has been proposed by Geheimer Ober Baurath E. Wiebe for the adoption of the town of Dantzic, and which scheme has been before you for nearly four years. I have examined very carefully the conditions under which that scheme has been prepared, and looking at it as a scheme I concur in all the essential propositions made. I consider that the scheme, looking at it as a plan, is very perfect, and in the general arrangement it is very good; and looking also at the scheme with the knowledge of what was the general received opinion as to the formation of sewers in England, at the time these plans were prepared, and examining these plans now after the elapse of four years from the time of their preparation, I know full well that, speaking generally, the scheme as proposed for the drainage of Dantzic, the principles propounded four years ago, although advocated in England at that time, had not come into general operation; but in the time that has elapsed since that report has been prepared the principles there delineated have become the recognised system of drainage in England. Since the period Geheimer Ober Baurath E. Wiebe prepared his scheme much more is known with regard to the details of sewer construction, and the necessity for sewer ventilation; and, therefore, when the general principles laid down by the Geheimer Ober Baurath come to be put in practice, the details of the scheme must be modified to meet the altered state of our knowlege, and the natural contingencies that will arise during the progress of the work."

With regard to the expression that my recent work on sanitary engineering is "principally a compilation" it is scarcely necessary for me to pay attention. I have acknowledged throughout the volume that I have been indebted to certain authorities for information, and in no case am I aware that I have quoted or borrowed a quotation without due acknowledgment, so that any person reading my book will be able to form an opinion as to what proportion of the work is due to others and what to myself. I felt, in writing on such a subject as sanitary engineering, that a book which simply expressed the opinion of an individual writer would be valueless; and in order to make it valuable, I have made use of the thoughts and opinions of others, and in the next volume, which is in the press, I shall continue the same course.

That an anonymous writer should attempt to disturb the amicable understanding between the engineers engaged in the prosecution of the Dantzic works shows a vindictive feeling exercisable only by such characters as shelter themselves under the cloak of anonymous communications. BALDWIN LATHAM.

*** We have also received a letter on the subject from Mr. John Phillips.

## OLD ST. PANCRAS CHURCHYARD.

A CROWDED public meeting of the ratepayers of St. Pancras, convened by the Vestry, has taken place at St. Pancras Vestry-hall, for the purpose of protesting against the contemplated attempt of the Midland Railway Company to appropriate the ancient church and churchyard of St. Pancras, as well as the adjoining churchyard of St. Giles's-in-the-Fields, to railway purposes. The Secretary of State for the Home Department has already had an inquiry instituted into the matter by Mr. Holland, medical inspector attached to the department of the Privy Council, but he has not yet made his report. Mr. Churchwarden Joseph Salter presided. The chairman explained the clause of the Midland Railway Bill, which was so worded that but for the greatest vigilance on the part of the Vestry no one would have known what was meant, as the company had never given the notices they were bound to do. The Vestry had, however, on the part of the ratepayers, determined to oppose the scheme by every means in their power.

Mr. James Hoppey moved the first resolution:

"That this meeting enters its solemn protest against the proposal of the Midland Railway Company to obtain powers to agree for the purchase of the burial grounds of St. Pancras and St. Giles, and hereby urges upon the vicar, churchwardens, and church trustees to oppose the Midland Railway Bill, and not to enter into any negotiations with the Company with a view to the sale of the grounds in question."

The Rev. Father Dolman, in seconding the resolution, pointed to the fact that there was no churchyard in the vicinity of the metropolis which contained so large an assemblage of the illustrious dead, and implored all classes and all religionists to combine to prevent this shameful desecration.

The Rev. John Lee, formerly incumbent of Holy Trinity, Haverstock-hill, supported the resolution; and other gentlemen having also addressed the meeting, the resolution was carried unanimously amidst great cheering.

Mr. Churchwarden Coleing moved the adoption of a petition against the Bill, to be signed by the chairman on behalf of the meeting, and forwarded to the House of Lords for presentation. This resolution was also carried.

Under the title, "A Plea for St. Pancras Churchyard: being a Remonstrance against the Proposed Desecration by the Midland Railway Company" (Hall & Lovitt, Camden-road), a paper in the *Builder* of September 7th, 1867, has, with our permission, been reprinted, with some additional matter.

## BETTER PROSPECTS.

OH, dear! what can the matter be, speculative builders seem in haste and in fear? See how they are running; the new law is coming; their game is nigh up, they see clear. Houses are to be built time and clime to withstand, not anywhere, anyhow, with anything nearest to hand. Light, air, and drainage are to be the cardinal improvements. House D.s and M.D.s are summoned to advise on the movement. The Fireman held forth on house-traps that burnt. Science and law are to enforce what in sorrow has been learnt. As a house progresses it is to be carefully scrutinised. Run-'em-up "Jerries," your nefarious doings will be paralysed. Thanks to philanthropists and keen M.P.s,—same to honest working bees; for healthy homes found a nation's strength. Hurrah! for wise men's views will prevail at length. R. T.

## THE BRIGHTON AQUARIUM.

SIR,—My attention has been drawn to certain statements affecting this institution which appear in your journal of the 6th inst., in connexion with the subject of a proposed aquarium at Birmingham, and I shall be obliged by your giving like publicity to the following observations:—

I am not aware who the "competent persons" may be to whom you allude, or the source from which they derive their information; but I can state, as a matter of fact, that the results hitherto attained at Brighton are quite at variance with the assertions hazarded by these individuals.

So far from its being true that the mortality among our fishes is great, the weekly returns of deaths presented by the naturalists to my Board indicate a minimum rate of mortality generally so trifling as to be almost imperceptible among so many thousands of animals.

The assertion that the tanks are often turbid is incorrect; and at no period since the opening of the Aquarium has the water been in a more satisfactory condition as to its clearness and suitability for the inmates of the tanks.

I am pleased to have the opportunity of dispelling the sinister apprehension that a "reconstruction of the establishment" will be required, for our experience fully justifies the soundness of the scientific principle upon which the Aquarium has been constructed. It is quite intelligible that persons who have been accustomed to deal only with mere "toys" of aquaria, any one of which could be contained in a single tank at Brighton, should be incapable of appreciating the magnitude of our operations, and the completeness of the system adopted at Brighton. Upon this topic I cannot, however, do better than refer you to Mr. Birch's letter in the *Times*, of the 24th October, 1872, which has never been answered.

It may be interesting to your readers to learn that the town of Scarborough is about to have its aquarium constructed upon the same scientific principle as ours, and upon the designs of our engineer and architect.

With regard to the circular mentioned in your article, I may state that some such document was submitted to us, but the queries contained in it were such as not to justify our entertaining them.

A sort of mania for these marine aquaria has sprung up, stimulated no doubt by our success at Brighton; but there is danger that the country will be flooded with paltry establishments, destined to the same fate as the Blackpool Aquarium, which has been closed after a career of only a few months. J. MCMILLAN,
Director, Brighton Aquarium.

*** The statements we gave were, as we said, from the report of a sub-committee of the Birmingham Natural History Society, appointed to inquire into the condition of existing Aquaria.

## SUNDERLAND TOWN-HALL PLANS.

REFERRING to the item in the order-book recommending the payment of premiums for designs for council-chambers, offices, &c., the committee report that the author of the design for site No. 1, bearing the motto "Experience," is Mr. John Johnstone, architect, of Newcastle; and that the author of the design for site No. 2, bearing the motto "Hope," is Mr. E. Hope Godwin, architect, London. For the further information of the council, the committee have to state that the following are the authors of the other two designs selected by them for site No. 1, viz.:—"Faith," Mr. E. H. Godwin; "Sirius," Mr. J. King James, architect, Hull; and the authors of the other four designs for site No. 2 are "Faith, Hope, and Charity," Mr. J. P. Pritchard, architect, Darlington; "King Koffee," Mr. E. M. Gibbs, architect, Sheffield; "Knowledge is Power," Messrs. Leeming & Leeming, architects, Halifax; "Roma," Messrs. Herbert Amon & William Kenwood, St. Leonard's, Hastings. As regards the remaining design, referred to on the presentation of the report to the council on the 29th of April, for site No. 1, having the motto "Auspice Deo," the author is Mr. Frank Caws, architect, Sunderland.

Mr. C. H. Reed, at a meeting of the Council, said it was a source of considerable regret to the committee that they were not able to recommend the plan of Mr. Frank Caws. His design, "Auspice Deo," was placed at the head of the list at the first meeting of the committee, and it was afterwards thrown out, owing to an oversight of his own in not stating that 2,000*l.* was for furniture. If in his specification he had clearly shown that fact he would have been entitled to the premium.

The report was agreed to.

## THE TRADES MOVEMENT.

*Wolverhampton.*—Twenty-nine masons in the employ of Mr. H. Lovatt, contractor, Wolverhampton, who is building the new Grammar schools, have struck work, and so too have the other masons employed in that town by the same firm, simply because their employer has had a Portland stone staircase prepared at Portland, for laying in Wolverhampton. The worked stone to which the men object is prepared not by machines, but by hand labour, at wages higher than the Wolverhampton masons are receiving. It is prepared at the quarry of a master mason, who employs more than 100 operative masons; and much of their work has been used at, amongst many other buildings, the additions to the General Post-office in London, and laid by the masons on the job without complaint. The Portland masonry has been obtained, not because it is cheaper, but because it would expedite the completion of the buildings, which the contractors desire shall be out of their hands in as brief a time as possible. The foreman of the masons, with the bricklayers' foreman, and the foreman of the carpenters, are doing what the masons decline to do. The masons' foreman has been threatened, but it is not known by whom.

*Leeds.*—At a meeting of master builders it was resolved:—"That we offer the stonemasons of Leeds and district 34*s.* per week, the time to remain as at present, viz., fifty hours' work per week." The demands of the stonemasons previously to the strike were that they should receive 33*s.* per week and have one hour and a half less work. The employers offered prior to the strike the full advance of wages asked for, but could not concede the one hour and a half less work. The unpleasantness of a strike has now been carried on for the last six weeks, and the employers desirous of bringing it to an end have made an offer to the men of 1*s.* per week

more than asked for in lieu of the shortening of the hours, which the employers feel they cannot under any circumstances concede. A copy of the above resolution has been forwarded to the men's secretary.

## THE CONCRETE MODEL BUILDINGS AT HASTINGS.

SIR,—In your last week's issue you gave an account of these buildings, but did not mention the fact that the concrete was made with the selenitic cement, which for such kind of work serves the same purpose as Portland cement, at the cost of ordinary mortar.

THE MANAGER OF THE SELENITIC CEMENT COMPANY.

## ENGINEERS *versus* BOROUGH SURVEYORS.

AT a meeting of the Sunderland Town Council last week, the question of superseding surveyors by engineers was gone into, and a Special Committee made the following report:—"That it be reported to the Council, that in the opinion of this Committee, the engineering department of this borough is weak in administrative ability and engineering skill; that in view of the important engineering duties which will devolve upon the Borough Surveyor, the Committee are of opinion that a properly qualified engineer should be forthwith appointed, at a salary of 500*l.* a year, and that advertisements be inserted in the newspapers for an engineer."

The Mayor of Sunderland read a letter of remonstrance from Mr. Younger, the borough surveyor, in which that gentleman demanded permission to appear and answer before the Committee the charges of incompetence made against him.

A member of the Council observed that he was quite sure the Committee would pay every attention to whatever Mr. Younger had to advance, and eventually the report was referred back to the Committee, with Mr. Younger's letter as well.

## CHURCH-BUILDING NEWS.

*Birmingham.*—The work on the rebuilding of St. Martin's Church has made satisfactory progress. The aisles are roofed in, as are also the transepts, while the nave roof has been boarded and felted, preparatory to the tiles being laid on it. The roof woodwork of the interior of the aisles is now complete. No varnish will be laid on the natural grain of the wood. The timbers of the nave roof, being finished, are under the carver's hands. As regards the erection of the chancel, it has unavoidably fallen into arrear, but the work will shortly be pushed on. Persons are coming forward to associate themselves more directly with the rebuilding of the mother church of the town, by undertaking the cost of carving the capitals of the stone pillars of the nave. As this idea can be indulged in at a cost of about a ten-pound note a piece, the whole of the capitals it is thought will be bespoken in a short time, leaving only the carving of the hammer-beams of the roof to be competed for by those who are equally well disposed to aid in the embellishment of the structure.

*Alnwick.*—A public meeting has been held in the Town Hall, Alnwick—the Ven. Archdeacon Hamilton in the chair—to take into consideration the desirability of raising funds to procure five bells to complete the peal in the tower of St. Paul's, Alnwick. Appropriate resolutions in favour of the idea were passed, and that it would be fitting as a memorial to her Grace the Dowager Duchess Charlotte Florentia of Northumberland. A committee was appointed to carry out the project and canvas for subscriptions. A subscription was opened in the room, when 68*l.* 18*s.* were subscribed. Mr. Perry, the vicar of St. Paul's, stated that the Duke and Earl Percy had promised their support, if the people of Alnwick should show themselves earnest in the matter.

*Marlborough.*—The new chancel recently added to St. Mary's Church has been opened. The chancel was designed by Mr. G. E. Street, R.A., and the builder is Mr. R. N. Hoskyns, of Hungerford. It is built of flint, with Bath-stone dressing, the internal walls being stuccoed. The floor is paved with Minton tiles, and in the centre is a brass memorial of the Merriman family. The chancel is raised from the level of the nave floor by six steps, and is divided from the body of the church by a dwarf-screen of stone, surmounted by an ornamental iron cresting. The Gothic iron entrance-gates are the gift of Mrs. N. Reed. Over the communion-table, which is of carved oak, and below the stained window in the recess in the wall are placed a cross (the gift of the Rev. E. E. Dugmore), four brass vases containing flowers, two stands for triple lights, and two candlesticks, the gifts of friends. The organ, which formerly stood in the gallery, has been removed to a recess on the left of the chancel; and two rows of carved oak seats for the choir have been erected on either side of the chancel.

*Hockley.*—St. Saviour's Church, which has just been erected in St. Matthias's parish, has been consecrated by the Bishop of Worcester. The new church stands at the corner of Bridge-street and Villa-street, Hockley, and is an unpretentious structure, in the Geometrical style, and built of brick, with stone columns to the nave arcade, and stone traceried windows. It consists of a nave 85 ft. 5 in. long by 25 ft. wide; north and south aisles, 8 ft. 5 in. wide; chancel, with apsidal termination, 26 ft. 8 in. long by 23 ft. wide. At the west end there is a tower with spire, rising to a height of 120 ft., the spire being constructed of wood and slate; and there are a small organ-chamber and vestries in the north side of the chancel. The nave arcades consist of five arches; each of the pillars supporting them have carved capitals. There are five large windows in each of the aisles, and further light is secured by a row of clearstory windows. The belfry in the tower is open to the nave, so as to admit light from a large west window. The roof is open-timbered, with the wood-work stained and varnished. There is accommodation for 500 adults, in open seats, all of which are free. The church has been built by Mr. W. Partridge, from designs by Mr. J. A. Chatwin, and, including the site, has cost about 5,200*l.*

## VARIORUM.

"PRINCIPLES of Mechanics, by T. M. Goodeve M.A. (Longmans, Green, & Co.). 1874." This volume contains an outline of one part of the course of lectures on Applied Mechanics, given by the author at the Royal School of Mines, of which he is the lecturer on Applied Mechanics, and, therefore, a very competent authority on a subject such as that of which this text-book of science treats. In a limited space he gives a comprehensive view of the science, and points out the necessity of continually referring to practice and experience, and the careful thought with which the relation of the theory of heat to mechanics should be approached by the student in his earliest inquiries.——"Tyer's Block Telegraph and Electric Locking Signals. Fifth edition (Tyer & Co., Telegraph Engineers and Contractors, Finsbury)." In this book particulars are given of Tyer's patents by the engineers themselves. It is illustrated with diagrams and other engravings.——"The Trade of Liverpool. Second Series: The Timber Trade (Albion Office, Liverpool.)" The series of which this is a part, appeared in the *Liverpool Daily Albion*, and has been reprinted, each subject in a separate form.——"Manchester Public Free Libraries: Index Catalogue of the Hulme Lending Branch. Second Edition, revised and augmented (Manchester: Cornish, Piccadilly.)" Since the publication of the first edition of this catalogue there have been added to the library nearly 5,000 volumes on almost all subjects of general interest and utility; and the library in its present state numbers upwards of 12,000 volumes, in all departments of literature, art, and science, of which this is the catalogue.——The *Penn Monthly* for June has several interesting articles, including one on the Merits of Cremation, and another on Public Baths for Cities.——*Scribner's Monthly* for May includes a very fully illustrated article, views, and plans, on the New Homes of New York, which may be usefully studied. The magazine is published in London by F. Warne & Co.——*Marble Arch* is the somewhat awkward title of a monthly magazine published at the Ladies' Printing Press, Hunter-street. One feature of this new venture is that four pages of music are given with it.——The paper on the Ventilation of Sewers, by Mr. E. Ellice Clarke, C.E., read before the Association of Sanitary Engineers at Birmingham, has been printed (Waterlow & Sons) in a separate form.

**Northamptonshire Architectural Society.** This society has had an excursion to Fawsley, Canon's Ashby, &c., one of the most picturesque portions of the county of Northampton opened up by the East and West Junction Railway. It is a district possessing features of archæological interest of sufficient importance. The party assembled at Byfield Station. The assemblage was courteously welcomed by Sir Henry Dryden, who acted as special *cicerone*. Under his direction, they occupied four two-horse vehicles, and visited Byfield Church, Charwelton, Fawsley Park, Preston Capes, and Canon's Abbey, at which last they were feasted by Sir Henry and Lady Dryden.

## Miscellanea.

**Northern Architectural Association.**—A meeting of the members of the Northern Architectural Association was held in the Old Castle, Newcastle-upon-Tyne, on Tuesday, the 9th inst.; Mr. Thompson, president, in the chair. Mr. Oliver and Mr. Peachy were appointed delegates to the Architectural Conference to be held in London in connexion with the Royal Institute of British Architects; they were also appointed delegates to the Architectural Alliance, whose meetings are held at the same time. A discussion took place in reference to the circular of the Master Builders' Association of Newcastle, in which Mr. G. W. Hodge, honorary solicitor to the Northern Architectural Association; Mr. Thompson, president; Mr. Oliver, honorary secretary; Mr. Shotton, Mr. W. H. Dunn, and Mr. Connell took part, in regard to the appointment of surveyors for the taking out of quantities, and their legal duties and responsibilities. Ultimately the matter was referred to the committee to endeavour to frame a report, and meet a deputation from the Master Builders' Association.

**New Museum for the Torquay Natural History Society.**—The foundation-stone of a new museum has been laid at Torquay, on a site in the Torwood-road, immediately adjoining the new edifice just erected by the Wesleyans,—Wesley Church. The site (a piece of ground valued at 500*l.*) has been presented to the society. The work will, it is estimated, cost 2,300*l.*, but if the ulterior designs of the committee are carried into effect about 4,500*l.* will have to be expended. The contractor for the building is Mr. E. P. Bovey, who will construct it from designs furnished by Mr. Harvey, of London, architect. Of the 2,300*l.* required for the erection of the building, upwards of 1,300*l.* have already been subscribed. There will be two stories to the building, the front of which will be of an ornamental character, and composed of Bath stone and limestone. The under portion of the building will be occupied by a library and the curator's rooms, and the upper part by the museum. If extra funds can be subsequently raised, the committee propose building a lecture-room, and sleeping apartments for the curator at the back of the building.

**Yorkshire Exhibition of Arts and Manufactures.**—The committee of the Leeds Mechanics' Institution and Literary Society and Schools of Art and Science have resolved to accede to a generally-expressed wish that they should organise a Yorkshire Exhibition of Arts and Manufactures, to be opened in Leeds, on May 1st, 1875. Alderman Marsden, the Mayor of Leeds, presided at the first meeting of the committee of management, held in the council-room of the directors of the Leeds Mechanics' Institute, last week, when the general principles upon which the Exhibition is to be organised and the rules for its management were agreed upon. The object of the Exhibition will be to promote the fine arts and art and science as applied to manufactures, and the surplus funds will be applied to the liquidation of the debt now remaining on the Leeds Mechanics' Institute. In addition to the Exhibition of Arts and Manufactures, a fancy fair will be held in the Albert Hall. The general committee of management will raise immediately a guarantee fund of not less than 10,000*l.*

**Amalgamated Society of Engineers.**—The inaugural address of Mr. Newton, the president, on the opening of the proceedings of the fifth delegate meeting of the Amalgamated Society of Engineers, &c., held in Newcastle-upon-Tyne on Whit-Monday, 1874, has been issued in a printed form. It gives a short history of the society and refers to some of the most important principles which govern its proceedings. This society has now 40,000 members, each earning, probably, 30*s.* a week, which is an income of 60,000*l.* a week, or more than 3,000,000*l.* a year. Since the amalgamation in 1851 there has been expended by the society in payments to members out of work the sum of 561,827*l.*, inclusive of 43,559*l.* paid to members locked out in 1852. This is an average for 23 years of 1*l.* 1*s.* 4½*d.* per member per annum. The sick benefit paid for the same period has been 252,441*l.*, or an average of 8*s.* 6½*d.* per member per annum.

**The Royal Academy.**—The President and Council have issued invitations for their annual *conversazione*, to be held on Thursday, July 2nd.

**Fatal Fall from a Church Tower.**—The Coroner of Derby has held an inquiry respecting the death of Robert Morton, who had been killed by falling from the scaffolding attached to the tower of St. Luke's Church, Derby. From the evidence it appeared that the deceased was a mason. He and two other men were on the scaffolding waiting to land a cornice-cap, which was above a ton in weight. As soon as the deceased and a labourer saw the block of stone they ran to seize it, and they got it through a hole ready for landing. Stayner put a plank under one side of the stone, and deceased took the guide-rope and drew it to the inside of the tower, and was about to fasten it to a pole when the rope broke and the stone fell. The deceased, who had one end of the rope in his hand, was then drawn to the mouth of the hole, and the poor fellow fell to the ground, a distance of about 66 ft., and was killed on the spot. The jury returned a verdict of "Accidental death."

**The Bath and West of England Show.**—The ninety-seventh annual exhibition of the Bath and West of England Society and Southern Counties' Association commenced at Bristol on Monday in last week, and continued open up to Friday. The site was that abutting on the Stoke-road on Durdham-down, the well-known plateau which lies between Clifton and Cook's Folly, on a level with the Suspension Bridge. In a spacious wooden house were specimens of art manufactures. These formed the bazaar of the show. There was also, as usual, a fine-art gallery. A loan collection from South Kensington was this year dispensed with, and the whole of the works exhibited were by local artists. There were between four and five hundred paintings on the walls, and as a whole they were regarded as of more than average merit. The collection of paintings and water-colours numbered 460. There was in the building a miscellaneous collection chiefly of jewelry and carving lent for exhibition from the South Kensington Museum.

**Oxford Architectural and Historical Society.**—The third and last excursion of this society for the present term took place on Saturday before last, the party starting from the Martyrs' Memorial in two conveyances. The weather was propitious, and the party consisted of about forty persons. After an exceedingly pleasant drive through Littlemore, Sandford, and Nuneham, they alighted at the porch of the old Abbey Church, Dorchester, where the rector, the Rev. Mr. Macfarlane, awaited them. The party made a tour of the church, inside and out, and Mr. J. H. Parker, C.B., pointed out the great admixture of the workmanship. A visit was also paid to the almshouses, and to the old hall, now used as a school. The return journey was then taken. A meeting of the society was held on Tuesday in the Taylor Building (by permission of the curators), when Mr. Parker delivered a very interesting lecture on "Recent Excavations and Explorations in Rome," illustrating his lecture with several photographs and plans.

**Cornish Granite Monument.** — Messrs. Freeman, Penryn, have just completed a monument which is to be erected in the grounds of Greenwich Hospital, to the memory of the officers and men of the *Miranda*, *Curaçoa*, *Esk*, and *Harrier*, who were killed in New Zealand in 1863 and 1864. The monument, which is 40 ft. high, includes a sub-base and steps to the height of 3 ft., base die, cap, and needle. The base is moulded, and around the upper part is a carved rope or cable coiled at the corners. The die is 5 ft. 4 in. square, and the panels, which are finely polished, bear inscriptions in gilt letters of the names of those who fell, and the ships to which they belonged. The cap is also moulded, and around its upper part is a carved chain cable, the whole being surmounted by a needle, 26 ft. high, in one stone, 3 ft. square at the base. The monument is a fine specimen of the granite from Carnsew.

**The Restoration of Rochester Cathedral.**—When the dean and chapter, a few years back, took in hand the work of restoring Rochester Cathedral, under the skilful guidance of Sir G. Gilbert Scott, there was a great amount of work to be done. They have accomplished a portion of it, to the great improvement of the building, and have spent upwards of 10,000*l.* in doing it, while Dr. Griffith, formerly a canon, and Mrs. Griffith have provided 3,000*l.* for the restoration of the interior fittings of the choir. Sir G. Scott estimates that the work of restoration still urgently needed will cost 17,000*l.*

**New Synagogue at Liverpool.**—The new Synagogue of the Liverpool Old Congregation, now in course of erection, in Princes-street, is rapidly approaching completion. The ark, according to the *Jewish Chronicle*, will be constructed entirely of costly marbles of different colours, and will form a separate structure, a Temple within a Temple as it were. The ark alone will cost 1,000*l.* Mrs. James Braham, the widow of the gentleman who last year bequeathed the sum of 20,000*l.* to the congregation, is having a marble pulpit, which is to cost 250*l.*, constructed at her sole expense, to be presented to the synagogue. Among other gifts by various persons, Mr. Ranger has given an embroidered curtain for the holydays, which is to cost 250*l.* The day for the consecration of the synagogue has not yet been fixed.

**The Pollution of Rivers.**—A meeting was held at the rooms of the Society of Arts, John-street, Adelphi, last week, to promote legislation in restraint of the pollution of rivers. Lord Saltoun presided, and there was a large attendance of gentlemen interested in the question. Appropriate resolutions were passed, to the effect that it is the duty of her Majesty's Government to introduce during the next session of Parliament a measure to put an end to so dire an evil; and that it should be made highly penal to discharge sewage and other refuse into the rivers. Other resolutions, that there should be a law to protect to the utmost practicable extent water as well as air from pollution, and that a deputation should wait upon the Prime Minister to urge on him the necessity of legislative action next session, were carried.

**The Skinners' Company.**—This ancient company (they bought the site of their hall on Dowgate-hill in 1260, and received a charter in 1327) have always done something for poor scholars, and they are now carrying out the same policy by instituting fresh scholarships. The new master of the company is an architect, Mr. Charles Barry, and he presided at his first dinner on the 11th inst., dispensing elegant hospitality and performing the duties of the position with singular efficiency. The hall is a handsome modernised apartment with panels in the walls above the wainscoting which call for pictures.

**Margate Drainage.**—The mayor (Mr. T. D. Reeve) presided at a meeting of the council, when the subject of the appointment of a competent engineer to advise upon the selection of the drainage plans for premiation was considered, and the following resolution, after a long discussion, carried:—"That we consult an eminent engineer to advise us as to the disposal of the 200*l.* and 100*l.* premiums for drainage plans." It was further decided that the town-clerk should write to Messrs. Bazalgette, Beardmore, and Baldwin Latham, and ascertain whether they would undertake the duties, and at what fee.

**Sanitary Science Peripatetically Explained.**—The Regius Professor of Medicine, Dr. Acland, recently attended, in the parish of Marsh Gibbon, near Launton, with a number of the members of the university, and demonstrated sanitary conditions, good and bad, at the cottages there situated. Mr. Sendall, a Poor-law inspector, was present. The party at Marsh Gibbon were met by the Rev. Mr. Holmes. In one of the rooms of the parish schools Dr. Acland stated the object of the excursion, and various cottages, old and new, were visited, and remarks made upon their condition and surroundings.

**Sale of Sir William Tite's Autographs.** The interesting autograph collection of the late Sir William Tite, M.P., comprising many almost unique specimens of great writers, statesmen, divines, &c., both at home and abroad, together with a long series of letters and signs manual of royal and illustrious personages, many of them connected with the houses of Stuart and Bourbon, have been sold by Messrs. Sotheby, Wilkinson, & Hodge, in Wellington-street, Strand. There were several commissioned purchasers from the Continent and America in the room, and the proceeds of the day's sale amounted to something over 1,200*l.*

**Engineering in University College.**—Mr. A. B. W. Kennedy, of Edinburgh, consulting engineer, has been appointed to the Professorship of Civil and Mechanical Engineering in University College, London, vacant by the resignation of Professor George Fuller, who has succeeded Professor Thomson at Belfast.

**The Duke of Beaufort's Tomb at Windsor Castle.**—This ancient specimen of antique statuary, which adjoined the tomb of the King of the Belgians in the south aisle of St. George's Chapel, Windsor, has been removed to the family estate in Gloucestershire. Her Majesty has determined to erect a magnificent chapel and monument in honour of her father, the Duke of Kent. This will also necessitate the removal of the tomb of the King of the Belgians, which will be placed near the organ-loft in the north aisle, beside the monument of Sir John Elley.

**Proposed Aquarium at Bridlington Quay.**—A project has been set on foot to provide this seaside resort with a marine aquarium. Mr. Fairbank, C.E., has inspected the site (a little beyond the Alexandra Hotel), and from the low dip of the land he guarantees that baths or an aquarium could be supplied with salt water without the aid of pumps. It is expected that the work will cost about 5,000*l.*, towards which several gentlemen have promised to subscribe. The affair is to be worked as a limited liability company.

**Sir G. Gilbert Scott.**—On Commencement Tuesday at Cambridge, Sir G. Gilbert Scott, R.A., was admitted by the Chancellor to the degree of LL.D. *honoris causa*. The Public Orator, in speaking of Sir Gilbert, observed that that gentleman would hardly, perhaps, like it to be said, "*Nihil tetigit quod non ornavit*," so he would describe him as one who "*Nihil reficit quod ad artem non revocavit*." Reference was made to the chief restorations effected under Sir Gilbert Scott's guidance.

**Labourers' and Artizans' Dwellings.**—On Tuesday a Bill in the Commons was printed to give increased facilities for the erection of labourers' and artizans' dwellings. It is proposed to empower landowners to borrow money of the Public Works Loan Commissioners for the erection of such dwellings. The Bill recites that there is a great deficiency in the supply of suitable dwellings for the moral and physical improvement of the persons mentioned.

**Employment of Children in Brick-making.**—John Barrow, brickmaker, has been charged, at Leicester townhall, by Mr. H. M. Thornhill, inspector of factories, with employing Arthur Gunby without having a school certificate. Fined 10*s.* 6*d.* including costs. He was also charged with employing in his brickyard William Oakwell, under ten years of age, and admitted the offence. Fined 10*s.* 6*d.* including costs.

**Marnhull, Dorset.**—An elementary Church of England school, for 160 children, and a residence for school teacher, are about to be built in this parish, upon a site given by the Dowager Marchioness of Westminster. The materials are local rag stone, with Exbury brick dressings for walls, and plain tile for roofs; the style is a simple adaptation of domestic Gothic. The architect is Mr. James Soppitt, of Tout Hill, Shaftesbury.

**Industrial and Fine Arts Museum for Dublin.**—In answer to Sir A. Guinness, in the House of Commons, Sir M. H. Beach said he would give his attention to the recommendations of the Commission which reported in 1869 on the Science and Art Department in Ireland, in reference to establishing a general industrial and fine arts museum in Dublin, and that he hoped to be able to make some proposal on the subject.

**"The Builder" as a Sanitary Pioneer.**—We owe warm thanks to the editor of the *Hackney Express* for generous expressions as to the part long played by the *Builder* in discussing and urging sanitary reforms, and as the pioneer of sanitary science and improvement. The rarity of the acknowledgment on the part of contemporaries gives additional value to the observations.

**The Mortuary for Clerkenwell.**—The Vestry have resolved, after considerable discussion, to adopt a recommendation of their special Mortuary Committee, that the old burial-ground at the back of St. James's Church, Pentonville, be taken as a site for the proposed mortuary.

**Leicester Square.**—The opening of the square is fixed to take place on the 30th inst. The Prince of Wales will not be able to be present on the occasion. The statue of Shakspeare, which is already in position, is founded on that in Westminster Abbey.

**Rhubarb Leaves a Cure for Crickets.**—A large bakehouse at Turvey, Beds., was some years ago infested with crickets. As hot weather came on the nuisance became very serious, for crickets were to be found in every possible crevice. The baker was advised to lay some rhubarb leaves about the place. The light of the next morning revealed nibbled leaves and myriads of dead crickets; and this was the last of them in that bakehouse.—*The Garden.*

**Society of Biblical Archæology.**—A series of popular and educational lectures on the "History and Philology of Assyria and Egypt," on the plan followed by the Continental professors, will probably soon be originated under the sanction of the Council of this Society.

## TENDERS

For painting the exterior of Islington Workhouse, Upper Holloway:—

| | |
|---|---|
| Ward | £438 0 0 |
| Thorpe | 437 10 0 |
| Vick | 360 14 0 |
| Britton | 329 10 0 |
| Cox | 329 0 0 |
| Brown | 295 0 0 |
| Flaxman | 289 0 0 |
| Thomas | 289 0 0 |
| Wright | 287 0 0 |
| Green | 260 0 0 |
| Jaques | 247 0 0 |
| Wortley | 235 5 0 |
| Seed | 218 0 0 |
| Charlton & Martin | 191 0 0 |
| Surridge | 175 0 0 |

For widening and completing road at Burgess-hill, Hendon. Mr. R. B. Grantham, C.E.:—

| | |
|---|---|
| Wall Bros. | £227 13 8 |
| George | 255 0 0 |
| Meston | 236 0 0 |
| Messrs. Culverhouse | 229 3 0 |

For two houses and shops, at Stratford, for Mr. M'Cash. Mr. John Hudson, architect:—

| | |
|---|---|
| Little | £4,164 0 0 |
| Mortar | 3,973 0 0 |
| Cheffins | 3,970 0 0 |
| Ennor | 3,900 0 0 |
| Rivett | 3,890 0 0 |
| Nortin & Son | 3,873 0 0 |

For the erection of a warehouse in Curtain-road, Shoreditch, for Messrs. S. Moss & Sons. Mr. Lewis H. Isaacs, architect. Quantities supplied by Mr. L. C. Riddett:—

| | |
|---|---|
| Browne & Robinson | £961 0 0 |
| Killby | 912 0 0 |
| Nightingale | 883 0 0 |
| Scrivener & White | 837 0 0 |
| Elkington | 800 0 0 |
| Bayes & Ramage (accepted) | 798 0 0 |

For additions to children's home, Bonner-road, Bethnal-green. Mr. W. W. Pocock, architect. Quantities supplied:—

| | |
|---|---|
| Hobson | £2,569 0 0 |
| Ennor | 2,491 0 0 |
| Niblett & Son | 2,485 0 0 |
| Mayle | 2,418 11 0 |
| Gregor | 2,300 0 0 |

For additional schools and offices, William-street, Chelsea, for London School Board. Mr. E. R. Robson, architect. Quantities supplied:—

| | |
|---|---|
| Niblett | £3,995 0 0 |
| Shephard | 3,950 0 0 |
| Williams | 3,800 0 0 |
| Aitchinson & Walker | 3,795 0 0 |
| Hobson | 3,784 0 0 |
| Scrivener & White | 3,609 0 0 |
| Hood & Aldry | 3,399 0 0 |

For St. Saviour's Church, Lambert-road, Brixton-hill. Mr. E. C. Robins, architect. Quantities supplied. Contracts Nos. 1 and 2:—

| | |
|---|---|
| Downs | £7,995 0 0 |
| Dore Bros. | 7,730 0 0 |
| Brass | 7,632 0 0 |
| Rider | 7,620 0 0 |
| Newman & Mann | 7,612 0 0 |
| Hill, Higgs, & Hill | 7,550 0 0 |
| Kirk | 7,487 0 0 |
| Crockett | 7,355 0 0 |
| Bangs & Co. | 7,233 0 0 |
| Lathey Bros. | 7,130 0 0 |
| Hobson | 6,996 0 0 |
| Taylor | 6,584 0 0 |

For villa residance at Kingston-hill-place, for Mr. J. L. Edwards. Mr. W. W. Gwyther, architect. Quantities supplied by Mr. S. J. Thacker:—

| | House. | Conservatory. |
|---|---|---|
| Langmead & Wade | £3,305 0 0 | £230 0 0 |
| Axford | 3,220 0 0 | 222 0 0 |
| Thompson & Smith | 3,188 0 0 | 218 0 0 |
| Aitchison & Walker | 3,184 0 0 | 185 0 0 |
| Boyce | 3,184 0 0 | 229 0 0 |
| Rankin | 3,180 0 0 | 250 0 0 |
| Davis | 3,170 0 0 | 253 0 0 |
| Adamson | 3,095 0 0 | 235 0 0 |
| Cook & Green | 2,987 0 0 | 210 0 0 |

For alterations and additions to Nos. 278 and 280, Mare-street, Hackney, for Messrs. Holland & Brangwin. Mr. Henry Shaw, architect. Quantities by Mr. R. S. Wardle:—

| | |
|---|---|
| Dabbs | £1,551 0 0 |
| Robins | 1,478 0 0 |
| Culver | 1,321 0 0 |
| Outhwaite & Son | 1,241 0 0 |
| Ennor | 1,230 0 0 |
| Boyce | 1,174 0 0 |
| Shurmer | 1,172 0 0 |

For a family and commercial hotel, in Fisherton-street, Salisbury, for Messrs. George Gale & Co., of Horndean, Hants. Mr. Fred. Bath, architect. Quantities by the architect:—

| | |
|---|---|
| Dawkins | £2,849 0 0 |
| Pomroy | 2,567 0 0 |
| Hopkins | 2,355 10 0 |
| Tryhorn | 2,143 0 0 |
| Cooper (accepted) | 2,093 0 0 |

For additions to mansion (billiard-room), at Blackmore-end, Kimpton, for Mr. R. B. Baxendale. Mr. Geo. R. Isborn, architect:—

| | |
|---|---|
| Gilmour | £790 0 0 |
| Killby | 731 0 0 |
| Messrs. Arrowsmith, for furnishing | 547 18 0 |

For rebuilding the Cooper's Arms, Flood-street, Chelsea, for Mr. D. Price. Mr. H. R. Cotton, architect. Quantities supplied by Mr. A. T. Gates:—

| | |
|---|---|
| Mills | £4,849 0 0 |
| Newman & Mann | 4,443 0 0 |
| Maclachlan | 4,370 0 0 |
| Williams | 4,247 0 0 |
| Hyde | 4,125 0 0 |
| Wagner | 4,023 0 0 |
| Toms | 3,916 0 0 |

For erecting new stabling, &c., at Compton Field-place, Godalming, for Mr. John King. Messrs. John Giles & Gough, architects. Quantities supplied:—

| | |
|---|---|
| King | £1,285 0 0 |
| Sheffield | 1,134 0 0 |
| Grover | 1,125 0 0 |
| Nye & Son | 1,116 0 0 |
| Moon | 1,096 0 0 |
| Putney | 1,075 0 0 |
| Mitchell | 1,062 0 0 |

For the erection of a shop, &c., at East Harptree, Somerset, the stone being supplied, for Mr. William Wildman Kettlewell. Mr. Edward Thomas Boston, architect:—

| | |
|---|---|
| Magge & Adams (accepted) | £1,706 0 0 |

For alterations and additions to St. Botolph's Church, Farnborough, Warwickshire. Sir G. G. Scott, architect:—

| | |
|---|---|
| Cooper | £3,939 17 6 |
| Law & Sons | 3,516 0 0 |
| Fast | 3,306 0 0 |
| Franklin & Sons | 3,040 0 0 |
| J. & T. Davis | 2,977 0 0 |
| Symm & Co. | 2,974 0 0 |

For alterations and repairs to Great Bourton Vicarage, near Banbury, Oxon:—

| | |
|---|---|
| Claridge | £895 0 0 |
| J. & T. Davis | 875 0 0 |
| Symm & Co. | 797 0 0 |
| Kimberley | 769 0 0 |

For the erection of a hostel for fifty boys, master's house, and infirmary, for the Governors of Stamford Endowed Schools. Messrs. Hay & Oliver, architects. Quantities by Mr. G. R. Tasker:—

| | | Allow for old materials. |
|---|---|---|
| Webber | £5,739 0 0 | £224 0 0 |
| Ireson | 5,719 0 0 | 240 0 0 |
| Hinson | 5,613 0 0 | 263 0 0 |

For new basement, &c., under Mitre-court, St. Paul's-churchyard, for Messrs. Hitchcocks. Messrs. Charles Searle & Sons, architects. Quantities not supplied:—

| | Wrought-iron Girders and Iron Skylight. | New Basement. |
|---|---|---|
| Axford | £337 0 0 | £1,480 0 0 |
| Newman & Mann | 360 0 0 | 1,415 0 0 |
| Sewell & Sons | 354 0 0 | 1,090 0 0 |

For the erection of manufactory at Higginshaw-lane, Oldham, for the Carbon Fertilizer Company (Limited). Mr. Alexander Payne, architect:—

| | |
|---|---|
| Gribble | £5,980 0 0 |
| Davison | 5,746 0 0 |
| Wade Bros. | 5,660 0 0 |
| R. Neill & Son (accepted) | 5,648 0 0 |
| Tall & Co. (Concrete Building) | 5,640 0 0 |

For erecting male infirm wards, probationary wards, store rooms, and coal cellars, at St. Luke's Workhouse, City-road. Mr. H. Saxon Snell, architect:—

| | |
|---|---|
| Moreland & Nixon | £20,780 0 0 |
| Staines & Son | 19,950 0 0 |
| Grimwood & Sons | 19,600 0 0 |
| Crockett | 19,250 0 0 |
| Martin | 18,950 0 0 |
| Roberts | 18,448 0 0 |
| Smith | 18,337 0 0 |
| Mark | 17,988 0 0 |
| Wall | 17,330 0 0 |
| Jerrard | 17,283 0 0 |
| High | 16,380 0 0 |

## TO CORRESPONDENTS.

Unusual pressure on our columns compels us to postpone a number of communications.

W. L. (shall have our attention).—E. (Ilkley).—A. M.—W. P.—F. R. W.—S.—G. R. I.—W. I.—W. T.—J. K. J.—C.—T. B. S.—H. S. S.—J. P.—W. H.[P.—H. L.—J. & T. D.—P. E. T.—J. McM.—T. B.—S. J.—W. & N.—C. C. H. (thanks).

Unusual pressure on our columns compels us to postpone a number of communications.

We are compelled to decline pointing out books and giving addresses.

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